FOR RICHER FIELDS

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PUBLISHED EVERY MONDAY

WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

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Purchase price was reported in excess of $750,000.

Earl Nichols, president of Nichols Fertilizer & Chemical Co., and Lester E. Cox, head of Oklahoma Fertilizer & Chemical Co., were principals in the transaction. Russell L. Pierson is vice president of the new firm, and W. Frederick Nichols is secretary-treasurer.

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Nicotine Sulfate Inquiry

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Cotton Acreages Spell Opportunity For Sales Volume

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Briefly, that information is that neither of these two industries has reached its potential in selling fertilizers and pesticides to the cotton farmers.

Since Congress adjourned without enacting pressure measures which would have acceleratd exports of U.S. owned stocks of cotton, the provisions of the existing farm act will go into effect. On Dec. 15, 1955, cotton farmers will hold a referendum vote on acceptance of acreage allotments on that crop.

At the same time, USDA announced that it had increased the set-aside on cotton stocks—purely for statistical purposes, to 3 million bales.

That action assures a price support level for the cotton crop for next year at 90% of parity figured on a ⅞ inch staple grade as the basis of computation of parity. Congress in this session had proposed to change the basic parity computation from ⅞ inch staple to one inch which would have maintained the 90% of parity support as a fiction compared with the old

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For Thailand, ICA authorized the expenditure of $1,880.000 for purchase of pesticides to be purchased between Aug. 3 and Oct. 31, 1955. Purchases will be made by the emergency procurement facilities of General Services Agency.

Some $12,000 of nitrogenous fertilizer materials—$6,832 of potash materials and $12,200 of phosphatic and other fertilizer materials have been authorized by ICA for world-wide procurement for Iran.

Procurement will be carried out by GSA emergency procurement agency between this time and delivery date, not later than Dec. 31, 1955.

Iowa Firm Building $200,000 Fertilizer Plant

NEVADA, IOWA — Continental Fertilizer Co. is erecting a $200,000 fertilizer plant here. The firm was organized recently.

U.S. Potash Co. Plans $3 Million Expansion at Mine

NEW YORK—The directors of the United States Potash Co. have approved the expenditure of approximately $3 million to increase the output of its mine near Carlsbad, N.M., and to expand its refining facilities to provide about 20% additional productive capacity.

It is expected that under this expansion program the additional production will be available for the 1956-57 sales year which begins June 1, 1956.

The company has also announced that it has secured the reservation of a large tract of Crown lands in the Province of Saskatchewan, Canada, for the purpose of exploring for potash. A limited acre-drilling program has been approved. The venture is regarded at this time as wholly exploratory.

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This represents an increase of 8% er 1953-54. The deliveries were ade in 46 states, the District of olumbia, Canada, Cuba, Hawaii, uerto Rico and a few other coun- ies.

Potash for agricultural purposes in the Continental U.S. amounted to 1,897,404 tons K_2O, an increase of more than 6% over last year. Canada received 86,881 tons K_2O, an increase of 20%; Cuba 5,264 tons, a decrease of 21%; Puerto Rico, 22,328 tons, an increase of 7%; Hawaii, 19,217 tons, an increase of 2%; and other countries, 30,584 tons, an increase of 731% compared to last year.

Illinois was the leading state for deliveries, followed in order by Ohio, Indiana, Georgia, Virginia and Florida. Deliveries do not necessarily correspond to consumption in a given state.

Muriate of potash was the principal grade, comprising 93% of the total agricultural potash delivered; sulphate of potash and sulphate of potash-magnesia together made up 7% of deliveries; while manure salts dropped to an insignificant figure, reflecting the trend toward the use of more concentrated materials.

Deliveries of potash for chemical uses amounted to 103,319 tons K_2O, an increase of 12% over 1953-54.

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Leaders of NPFI Research and Education Committee Named

WASHINGTON — George Serviss, G.L.F. Soil Building Service, and Borden S. Chronister, Nitrogen Division. Allied Chemical & Dye Corp., have been named co-general chairmen of the Research and Education Committee of the National Plant Food Institute.

Dr. Vincent Sauchelli, Davison Chemical Co. Division, W. R. Grace & Co., has been named general vice chairman. The position of permanent secretary will be held by Dr. Malcolm H. McVickar of the Institute.

The objectives and scope of the Research and Education Committee are to "implement the NPFI program of service to the fertilizer industry and to American agriculture by: 1) initiating, encouraging, and cooperating in studies and programs directed to improving fertilizer technology and utilization; and 2) compiling, interpreting, and disseminating information resulting from such programs and studies to hasten and expand its practical application."

The committee will carry on the activities of the former American Plant Food Council Agronomy Advisory Committee and the former National Fertilizer Assn. Plant Food Research Committee.

Heading the permanent divisions of the Research and Education Committee will be: Dr. Edwin C. Kapusta, U.S. Potash Co., fertilizer technology; Myron Kem, Virginia-Carolina Chemical Corp., agronomy and horticulture; and A. H. Bowers, Swift & Co., economics and farm management. Permanent members of these divisions will be selected from NPFI membership.

The Steering Committee of the committee will meet in Washington Aug. 30 to plan the 1955-56 activities.

Research, Economics to Be Featured at 22nd Annual NAC Meeting, Sept. 7-9

WASHINGTON—The effects of research and economics on the future of the pesticide industry will be highlighted at the 22nd annual meeting of the National Agricultural Chemicals Assn. at Spring Lake, N.J., Sept. 7-9, L. S. Hitchner, executive secretary of the association, has announced.

"Never before have research and economics been more important to the pesticide industry and to the entire field of agriculture," Mr. Hitchner declared. "Pesticides already are making a major contribution toward reducing labor costs on the farm and toward aiding the food industry in various processes involved in delivering high quality foods to consumers at prices they can pay.

"Through discovering new uses for materials now available and throu development of new products, r search can greatly increase the co tributions the industry will be a to make to agriculture and to t general welfare.

"Economics, too, are of grea concern to everyone in agriculture As the result of rising income Americans are eating more foo each year, and each year there ar more Americans. Some estimate indicate that the market for foo products might increase as muc as 25% in the next five years. W must all be ready with the mos advanced technology to help pro duce greater volume of qualit foods as the demand for them de velops."

The tentative program for t meeting lists speakers who will co the important phases of both search and economics. Speakers, a their topics, include:

Sept. 7—W. W. Allen, Dow Che cal Co., Midland, Mich., associati president, presidential address; W ren Moyer, Chipman Chemical C Bound Brook, N.J., "Major Trends the Pesticide Industry;" H. E. Luc icke, editor of the Journal of Co merce, "A Look Into the Econon Future," and A. W. Mohr, Califor Spray-Chemical Co., Richmond, C "Safety is Everybody's Business

Sept. 8—Mr. Hitchner, execut secretary's report; Dr. John T. Thu ton, director of Stamford (Con Research Laboratories, Americ Cyanamid Co., "Industry Resea Looks Ahead;" G. E. Lehker, Purd University entomologist, "A New A proach to Agricultural Chemic Public Relations," and Dr. S. W. Si mons, Communicable Disease Cent U.S. Public Health Service, Atlan "What Government Research Me to the Pesticide Industry."

Sept. 9—James D. Hopkins, H kins Agricultural Chemical C Madison, Wis., "NAC Services Associate Members."

Mr. Allen will preside at the Se 7 and Sept. 9 sessions. Fred Hatch, Shell Chemical Corp., N York, NAC vice president, will p side at the Sept. 8 meeting. T annual banquet is scheduled fo p.m. Sept. 8.

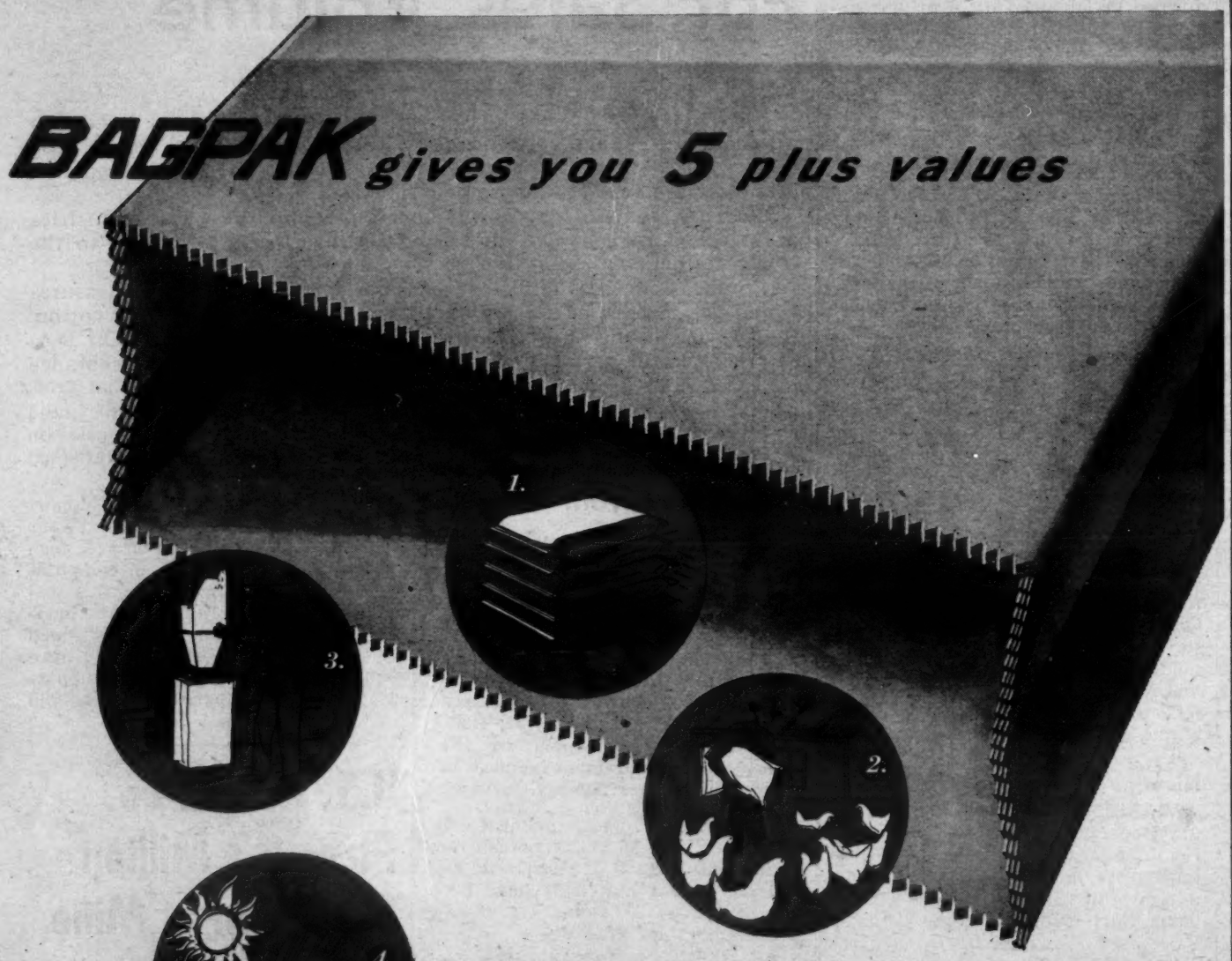
One of the highlights of t meeting will be a panel discussi Sept. 9 on the latest developmen relating to the Miller Amendme which regulates the use of pes cides on food crops. The amen ment, now Public Law No. 518, designed to strengthen the Feder Food, Drug and Cosmetic A which requires food shipped in i terstate commerce to be pure a wholesome.

Panel members will be Winton Rankin, assistant to the comm sioner, U.S. Food and Drug Admi tration, Dr. W. G. Reed, head, Pe cide Regulations Section, Plant P Control Branch, U.S. Departmen Agriculture, and Dr. Charles Palm, head, Department of E mology, New York State Colleg Agriculture at Cornell Univer Mr. Hitchner will be panel moder

Hercules Elects Two New Vice Presidents

WILMINGTON — Dr. Wyly Billing and John R. L. Johnson, members of the board of director Hercules Powder Co., have elected vice presidents of the c pany. Both men also were ele members of the company's execu committee.

Dr. Billing has been general m ager of Hercules' Synthetic Dep ment since 1943, and Mr. Johnson been director of the company's L Department and general counsel s 1949.



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INSECT, PLANT DISEASE NOTES

Arizona Growers Urged to Watch for Lygus Bug Pests

PHOENIX, ARIZ.—Lygus bugs are reported as being most prominent in Arizona agriculture at this time. Lygus counts are increasing all over the state and farmers were being urged to "watch very closely and control if the counts get above 8 to 10 per 100 sweeps."

These insects are very difficult to control when the infestation reaches high counts.

Spider mites have shown up in fields in many parts of the state and controls are necessary in some areas. Cotton bollworms are appearing and controls are needed in some fields. Leaf rollers continue to be a problem in some areas, but controls are appearing in many fields where pesticides have been applied. The cotton leaf perforator is still present in parts of Yuma County and controls are being applied.—J. N. Roney.

Iowa's Grasshoppers, Corn Borers Continue Threats

AMES, IOWA—Grasshoppers have suddenly been discovered by many farmers in central Iowa. Average populations range from 20-50 per square yard. Hoppers are half to full grown. These grasshoppers will feed and do serious damage until frost.

European corn borer pupation is progressing rapidly, with 60-80% of the larvae in the pupal stage now. Emergence is still low—less than 5%. There was a heavy flight of corn borer moths July 27-29 and egg masses are appearing. Eggs are being laid on early as well as late corn, increasing the difficulty of timing sprays.—Harold Gunderson.

Crops in Maryland Under Attack by Many Insects

COLLEGE PARK, MD. — Potato leafhopper injury to alfalfa remains light in most sections, but can increase. Grasshoppers continue to be abundant in sections of Frederick and Montgomery Counties, and early sweet corn is being damaged by the corn earworm in most sections.

Russet mites have been found in Baltimore, Caroline and Dorchester Counties on tomatoes. These are the first infestations for the year. A second brood of hornworms may appe soon.

Asparagus beetles, larvae a adults, are feeding on the ferns brush, and tarnished plant bugs a injuring heads of cauliflower in G rett County. These bugs swarm from other vegetables, weeds and h crops.

Japanese beetle are quite seve on ornamentals, shade and fruit tre in western Allegany County. Th have also been destructive to orn mentals in Montgomery, Baltimo and Prince George's Counties. Bla widow spiders are numerous in so housing developments. Spiders hi in piles of bricks, boards and oth building materials, among too flower boxes and flower bed borde around steps and under edges house siding.

Putnam's scale has shown up blueberry plants in Wicomico Coun Both leaves and fruit are infested. Theo. L. Bissell and Wallace Harding.

Boll Weevil Listed No. 1 Crop Pest in N. Carolina

RALEIGH, N.C.—The prospect good crop yields throughout No Carolina is still good, but the St Experiment Station warns growe that they cannot afford now to st treatments for control of cotton sects. "High yields are in sight, b they will not be a reality if the sects are permitted to take ove growers are told.

Boll weevils are still the No. threat in both treated and untrea ed fields in several counties. Re spiders are set apart as the No. pest now and are reported to b hurting the crop with some plant already defoliated in many section

Bollworms are especially numero in some fields but generally speaki they are not a threat on a state-wi basis. Wayne County reported many as 10 to 20 squares damag out of each 100 examined in so fields. From all indications ma growers in that area have a serio problem. Regular weevil applicatio made at close intervals should ho the pests, however.

Second Generation Boll Weevils Invade Tennessee

KNOXVILLE, TENN.—The seco generation of boll weevils is s emerging in the southern counti A heavier number of adults we seen in the blooms this week. Sin the infestations are in spots so of these weevils will probably m grate to nearby uninfested fiel Some of the heavier infestatio found this week warrant contr Control is difficult in most fields the cotton is very rank.

This week 82 fields were su veyed in 13 counties. Of the fields, 63 were found infested. Th average percent of infestation f the infested fields this week wa 6%. Last week it was 4.7% and was 1.5% this time last year. Th overall average for the infeste and non-infested fields togethe was 4.7%.

No noticeable bollworm incre over last week, but fleahoppers causing some damage all over area but do not seem to be increasi to any extent.—R. P. Mullett.

Frequent Rains Hamper Pest Control in New Mexi

COLLEGE STATION, N.M.—B worms are becoming very numer on cotton in Dona Ana County. S vival of young larvae is increasi and damage is becoming more p nounced with most fields on the b der line with 5 to 6% infestation. full scale outbreak is underway Chaves County, equally as heavy the 1951 infestations, with perf weather for continued build-up.

Bollworms are also very numer

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seed-alfalfa in northern Dona Ana nty. The general rains, which are ailing in most of the cotton wing areas, are preventing ground lication of insecticide and hamper- air application to a great extent. rra County reports only a few s found in fields checked.

Pea aphids are still very heavy in alfa in Sandoval, Bernalillo, Tor- nce and Santa Fe counties. ound Albuquerque, the aphid in- station consists of 80% pea hids and 20% yellow clover hids.

ellow clover aphids are not a blem in Dona Ana County or in northern alfalfa growing areas Rio Arriba, Sandoval, Santa Fe San Miguel counties; however, nds are still infested in Socorro, y, Catron, Torrance and Chaves nties.—John Durkin.

estation of Stored ain in South Carolina

LEMSON, S.C.—Boll weevil in- tations show a decided increase h cotton still growing well in most ts of South Carolina. Highly fer- zed cotton and frequent showers giving more rank growth of foli- than at any time since 1950.

nsect infestations in stored grain on the rise. The presence of ess moisture in stored grain sug- ts the need for much more ac- ty on the county level.

Damage to corn and other forage ops from chinch bugs has sub- ded, and the lesser cornstalk rer is reported to be doing less mage to soybeans and grain sor- ums than during last year. The llow-striped armyworm is doing ht damage to grain sorghum and ybeans, however.

eaf diseases of beans, cantaloupes pod diseases of lima beans are idedly on the increase. Bacterial spot probably is causing yellow- and defoliation of pimentos.

n extra heavy flight of bollworm ths was noted at Florence. This, the time of maturity of corn, will d to force this insect to crops such cotton, beans and other susceptible ps.

nt Diseases Pose Threat New Jersey Orchards

EW BRUNSWICK, N.J. — Al- ugh weather has been favorable codling moth, activity is spotty. pty pupal cases were easily found g with entry in Burlington Coun- but in some Gloucester County hards, no entry nor activity was orted.

A small portion of verticillium lt of peaches has been found in wly-planted block in Bergen unty. A gradual dropping of aves on apparently healthy cur- nt season growth and ultimate ath of one entire branch of a ung tree are the first diagnostic mptom.

Peach mildew disease has been nd in varying degrees in the coun- s of Monmouth, Burlington and rgen. The disease was first ap- ent about a month ago but was definitely diagnosed until re- tly.

treated Cotton Fields dly Infested with Weevils

THENS, GA.—Seventy-six fields 9 Middle and South Georgia coun- were inspected for boll weevil all were infested. Counts in 5 reated fields ranged from 18 to punctured squares with an av- ge of 26.8%. Counts in 71 treated ds ranged from 1 to 15% punc- ed squares with an average of %.

Terminal bud inspections in 19 lds gave an average of 2.8 boll- rm eggs and 2.3 worms per 100 terminals. Eggs or small bollworms or both were found in every field examined. Bollworm damaged squares averaged 3.6% in 5 untreated fields and 0.8% in 71 treated fields.

Examinations for aphids in the 76 fields showed infestations as follows: none—40 fields, trace—12 fields, light —12 fields, medium—10 fields, heavy —2 fields.

Spider mites were found in 24 of the 76 fields examined. Heavy damage by spider mites has been found in Henry and Elbert Counties in addition to the counties previously reported.—C. R. Jordan.

Corn Borers Expected To Increase in Illinois

URBANA, ILL.—Pupation of first-generation corn borer ranges from 25 to 80%. Moth flight, which has already begun, will increase greatly during the next few weeks. Egg masses of the second generation were found this past week, and egg laying should now increase rapidly. All information points to a long period of egg laying.

With information now at hand it is apparent that damage by second-generation corn borer will be very severe — probably far worse than anything yet experienced in Illinois. Dropped ears, chaffy ears, and broken stalks will be very common at corn-picking time, and unfavorable weather at that time could create a very serious situation. On the basis of information now available, it will pay to treat most of the later maturing fields of corn in the north half of the state to control second-generation corn borer.

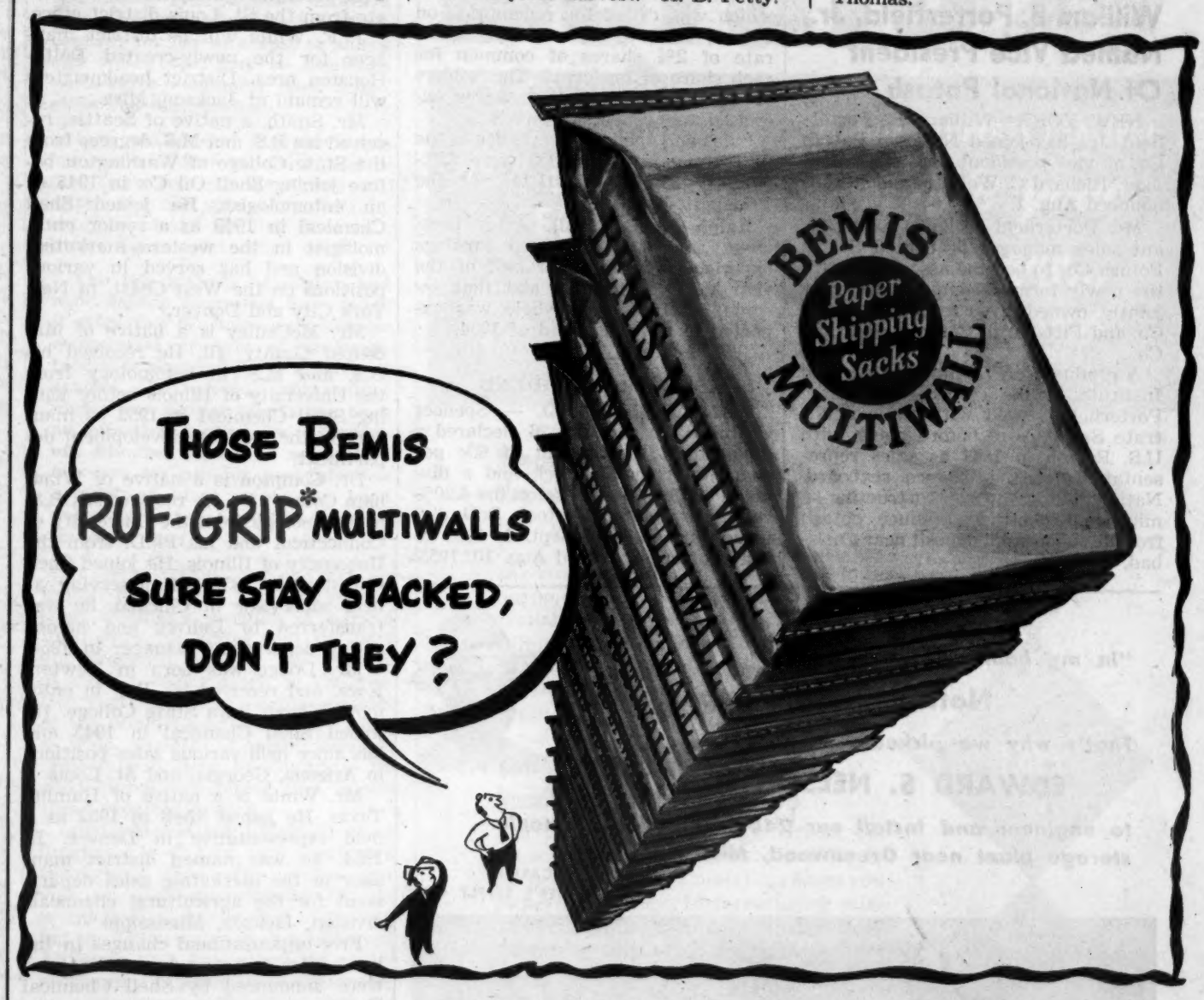
Grasshoppers remain rather serious in many localities. The hoppers are still concentrated along borders of fields in fencerows and similar areas. Applying dieldrin or toxaphene in these places will prevent serious damage to several rows of corn or soybeans. In hay crop fields aldrin or heptachlor may be applied to within 15 days of harvest.—H. B. Petty.

High Temperatures Help Build Grasshopper Numbers

COLUMBIA, MO. — Grasshopper damage is expected to increase materially if current high temperatures continue. Pastures are drying rapidly and the insects are beginning to concentrate more heavily in crops.

Although damage to crops has not yet become as serious as it was last year, we aren't through with these hoppers yet.

There has been a great increase in webworms in alfalfa during the past few days. Fields should be checked closely for webbing of the leaves in the tops of the plants. These worms start working on the most tender growth, and gradually spread to the rest of the plant. Remember that in a few days time, these worms can wreck an alfalfa field.—Stirling Kyd and George W. Thomas.



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William B. Porterfield, Jr.

William B. Porterfield, Jr., Named Vice President Of National Potash

NEW YORK—William B. Porterfield, Jr., has joined National Potash Co. as vice president and sales manager, Richard C. Wells, president, announced Aug. 1.

Mr. Porterfield resigned as assistant sales manager of United States Potash Co. to become associated with the newly formed company, which is jointly owned by Freeport Sulphur Co. and Pittsburgh Consolidated Coal Co.

A graduate of Virginia Polytechnic Institute in the class of 1934, Mr. Porterfield served with Chilean Nitrate Sales Corp. before going with U.S. Potash in 1947 as sales representative for the eastern seaboard. National Potash is constructing a mine and plant to produce potash from a substantial deposit near Carlsbad, N.M.

ATLAS FIRST HALF EARNINGS, SALES SHOW INCREASE

WILMINGTON — Atlas Powder Co.'s earnings in the first half of 1955 rose 33% with an increase of 4% in sales, according to the semi-annual report being prepared for stockholders.

Net earnings after taxes in the first six months this year were $1,644,440, compared with $1,230,656 earned in the same period of 1954.

After preferred dividends, the 1955 first half earnings equalled $2.25 a share on the 704,607 common shares outstanding on June 30. The 1954 first half earnings equalled $2.01 a share on the 542,931 common shares outstanding at that time.

The increase in outstanding common stock, amounting to 29%, resulted mainly from the conversion of the company's preferred stock. This issue, which was called for redemption on July 5, 1955, was convertible at the rate of 2⅔ shares of common for each share of preferred. The holders of all but 999 preferred shares exercised the conversion privilege.

Sales and operating revenues in the first six months of 1955 were $30,007,247, against $28,841,111 for the 1954 period.

Ralph K. Gottshall, Atlas president, said that the good earnings experienced in the first half of the year were continuing, and that income for 1955 as a whole was expected to be well ahead of 1954.

SPENCER DIVIDEND

KANSAS CITY, MO. — Spencer Chemical Co. on July 26, declared a dividend in the amount of 60¢ per share on common stock and a dividend of $1.05 per share on the 4.20% cumulative preferred stock. Both dividends are payable Sept. 1, 1955 to shareholders of record Aug. 10, 1955.

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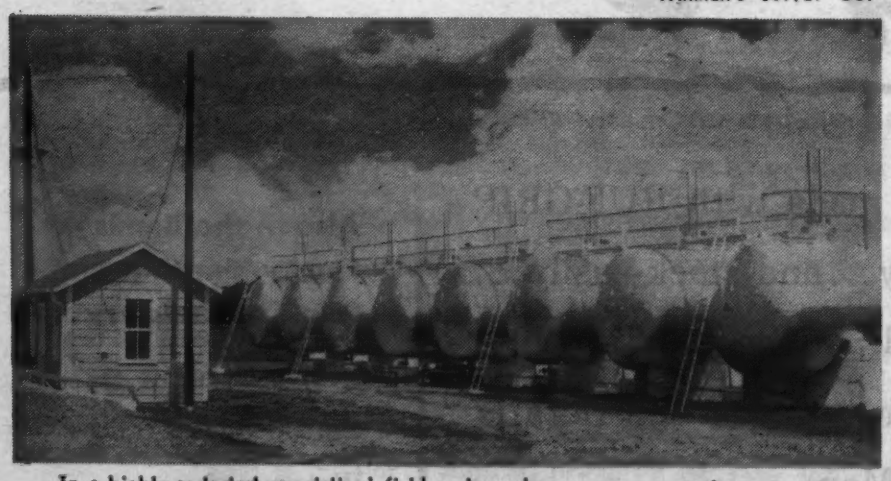

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Shell Chemical Corp. Announces Five Executive Changes

NEW YORK—Five staff changes in Shell Chemical Corp. were announced recently by F. W. Hatch, manager of the agricultural chemicals division, New York.

L. G. Smith, who has been assistant to the sales manager, has been appointed manager of the newly-created distribution-operations department.

W. E. McCauley, head of product and sales development department, was named assistant to the sales manager.

C. C. Compton was named manager of the sales development department —formerly known as the product and sales development department.

H. H. Dodge, senior district representative for the St. Louis district, was named supervisor for the sales development department in the Midwest area. He will continue to operate from the St. Louis district office.

J. F. White will be district manager for the newly-created Delta-Houston area. District headquarters will remain at Jackson, Miss.

Mr. Smith, a native of Seattle, received his B.S. and M.S. degrees from the State College of Washington before joining Shell Oil Co. in 1945 as an entomologist. He joined Shell Chemical in 1949 as a senior entomologist in the western marketing division and has served in various positions on the West Coast, in New York City and Denver.

Mr. McCauley is a native of Macoupin County, Ill. He received his B.S. and M.S. in entomology from the University of Illinois before joining Shell Chemical in 1952 as manager of the products-development department.

Dr. Compton is a native of Windham County, Vt. He received his B.S. in entomology from the University of Connecticut and his Ph.D. from the University of Illinois. He joined Shell Chemical in 1952. After serving as field supervisor in Chicago, he was transferred to Denver and named acting department manager in 1954.

Mr. Dodge was born in Newton, Iowa, and received his B.S. in entomology from Iowa State College. He joined Shell Chemical in 1945 and has since held various sales positions in Arizona, Georgia, and St. Louis.

Mr. White is a native of Hamlin, Texas. He joined Shell in 1952 as a field representative in Denver. In 1954, he was named district manager in the marketing sales department for the agricultural chemicals division, Jackson, Mississippi.

Five organizational changes in the head office treasury department also were announced by Shell Chemical Corp.

R. K. Burns, assistant manager of the treasury department, has been promoted to manager. P. J. Morel, chief accountant, was named assistant manager of financial accounting. W. F. Reed, who was chief accountant in the Tulsa exploration and production department, became assistant manager, financial analysis and budgets.

Mr. Reed replaces R. F. Fazio, who will be transferred to San Francisco as chief accountant in the ammonia division, on or about Nov. 1. Mr. Fazio replaces M. E. Lilley, who will be assigned to head office at that time.

Dr. Charles T. Brues, Former ESA Head, Dies

CRESCENT CITY, FLA. — Dr. Charles T. Brues, professor emeritus of entomology at Harvard University since 1946 and former president of the Entomological Society of America, died here recently at the age of 76.

He wrote several hundred articles for scientific journals and several books, the best known of which is "Insects and Human Welfare."

Richard F. Brown Named Spencer Vice President

KANSAS CITY—Kenneth Spencer, president of Spencer Chemical Co., Kansas City, has announced two major shifts in the Spencer organization. In the first move, Richard F. Brown, general works manager was named vice president and general works manager.

In the second move, the research and development activities of the company were established as a separate division. Dr. John R. Brown, Jr., general manager of research and development, was named manager director of the new division. Although they bear the same name, the gentlemen are not related.

In his new post, Richard F. Brown will continue to be directly responsible for the operation of all the company's productive facilities. By this grant of broader authority he will be in a position to relieve C. Y. Thomas, vice president-operations, of many day-to-day decisions formerly requiring his action, Mr. Spencer said.

Dr. John R. Brown, Jr., as manager director of the research and development division, reports to the president of the company. The changes were effective July 27.

Richard F. Brown joined the Military Chemical Works, Inc. (predecessor to Spencer Chemical Co.) in 1942 as a supervisor in the ammonia plant and advanced through several operating positions, including that of superintendent of New Products Department. He was appointed assistant to the vice president Sept. 21, 1947, and subsequently served as chief engineer, general manager of research and development, and general manager of industrial service. He grew up in Kansas City and attended Kansas University, where he graduated in 1933. He resides at 5537 Neosho Lane, Fairway, Kansas.

Dr. John R. Brown joined Spencer in 1953. He had previously served as assistant director of the chemical division of the Standard Oil Development Co. and as director of research for the Pro-phy-lac-tic Brush Co., a subsidiary of the Lambert Co. of St. Louis.

He was later named vice president and director of research of the Lambert Co. Dr. Brown was graduated from Oberlin College in 1933, where he was elected to Phi Beta Kappa. He received his master's degree in chemistry from this institution in 1935, and his doctorate in chemical engineering from Massachusetts Institute of Technology in 1938. He resides at 2701 West 68th St., Kansas City, Mo.

CSC SALES, NET EARNINGS SHOW GAIN IN QUARTER

NEW YORK — Consolidated earnings of the Commercial Solvents Corp. for the quarter ended June 30, 1955, were equal to 29¢ a share, which includes extraordinary net income of 12¢ a share on 2,636,878 shares, compared with a per share earning of 24¢ for the same period last year.

Sales for the quarter were $11,010,718, as against $11,779,824 for the same period in 1954.

Consolidated net earnings for the six months ended June 30 were $1,572,171, equal to 60¢ a share, on total sales of $24,956,927. Last year these figures were 48¢ and $23,769,

STEER GAINS

DIXON SPRINGS, ILL. — Steer gains on legume pastures at the Dixon Springs Experiment Station ran as high as 340 lb. an acre from mid-May to mid-June this year.

Increased Production

Stauffer's Expanded Captan Plant Now on Stream in Ohio

PERRY, OHIO—Stauffer Chemical Co. has put on stream here an expansion of its producing facilities for its fungicidal product, captan. With this increased production, the product is now for the first time available in adequate supply for agricultural applications, the makers report.

Pilot plant production of captan in California (amounting to about 2,500,000 lb. per year), supplied material for most of the initial experimental work. The favorable results created a demand which accounted for the entire 5 million lb. a year captan production of Stauffer's full scale plant at Perry, Ohio, from the time it was completed in 1953.

Even as this plant was being completed, plans were under way for an expansion and the new facilities doubled the rated capacity to 12,000,000 lb. per year. The total cost of the Perry, Ohio plant, according to a Stauffer spokesman, was two million dollars.

The production is sold jointly by the California Spray Chemical Corp. and Stauffer Chemical Co. as both are licensees under the captan patents held by Standard Oil Company of Indiana.

Captan's success as a commercial fungicide can be attributed to its versatility in fungicidal activity, low phytotoxicity and low mammalian toxicity, the company states.

Representative members of fifty families of plant disease fungi are susceptible to captan, yet its effect on the host crop is said to be very mild. Extensive toxicological investigations including long range feeding studies, have shown captan to be not only safe to handle but also offering no hazard to the consumers of crops treated with this material. Adequate legal tolerances have been established for most crops on which captan shows promise.

Since the product's initial commercial success was on russet-susceptible varieties of apples, such orchards are still consuming the major portion of captan produced at the Ohio plant. Captan now appears on practically every state schedule where Golden Delicious, Stayman, Baldwin or Jonathan apples are grown.

Use of the material has extended to other varieties, however, for control of scab and other fungus diseases. Several seasons of growing experience have indicated that captan spray schedules may also produce increased yields of larger, quality fruit with greatly improved storage qualities.

Pin point scab, originating in the field and later developing in storage, has been checked by captan, and other storage rots have been similarly suppressed, the makers state.

Until Stauffer's recent expansion of its production facilities, demand by apple growers limited the availability of captan for use on other fruits. Now, however, more of the product is expected to be used on peaches and other stone fruits in the future.

Results on strawberries have been excellent and results to date on cherries have been very promising, the company reports. Control of cherry leaf spot and fruit rot are claimed, as are increased yields and keeping quality after picking.

Stauffer reports that only a comparatively small amount of captan has found its way into commercial application on vegetable crops, but recommendations for application to cucurbits, tomatoes, potatoes, carrots, beans, and peas are appearing in a number of state spray schedules.

A promising immediate expanding market for captan is in the field of seed treatment, the company says. The product offers both protection of the seeds and seedlings during germination and emergence, it is stated, with related uses including the treatment of seed potatoes (and other tubers) as well as root dip treatment of ornamentals before setting.

Captan has been found beneficial as a protectant for the seeds of cotton, corn, ornamentals, and vegetables. The company makes a seed treatment formulation (75% captan) for use as a dust or slurry and which also may be combined with other commonly used fungicides and insecticides.

State and federal experiment station workers have reported good results from treating seed rows with captan dust and sprays for control of certain seed and seedling diseases of cotton, beans, and other crops.

The low toxicity of captan and wide dosage tolerances have made it attractive for home gardeners or commercial growers of ornamentals, it is reported. Root dipping of azaleas, carnations, chrysanthemums and similar plants has been an effective control for damping-off, Stauffer says, and application to roses for pre- or post-infection control of black spot, has been noted as well as a general increase in plant vigor.

In summarizing the market potential for captan, Dr. Charles Persing, Stauffer's director of agricultural research, states that the present prospects are for the doubling of captan consumption in the next two years. He predicts that because of the product's effectiveness against a wide variety of plant diseases, growers will come to appreciate the good cumulative effect that captan spray programs afford.

Orchards and plant beds in which fungus diseases are controlled throughout the entire season provide an ideal environment for the production of disease-free crops during the following year, it is observed. Although such long range preventive programs are generally recommended by agricultural authorities, they are often difficult to sell to the grower. Effective fungicides such as captan are useful tools in maintaining a sound disease preventive program, it is concluded.

W. A. Jackson New Sales Manager of Fertilizer Div. of Tennessee Corp.

EAST POINT, GA.—The appointment of W. A. Jackson as sales manager of the Fertilizer Division of the Tennessee Corp., which includes plants at East Point, Cedartown and Gainesville, Ga. and Attalla, Ala., has been announced by W. D. Barton, general manager of the firm's operations in those communities.

Mr. Jackson has been in the sales department of the Tennessee Corp. more than 25 years. He has been in office work, in charge of a sales district and for the past several years has been assistant to the sales manager.

The appointment of Mr. Barton as general manager of the firm's operations in East Point, Cedartown, Gainesville and Attalla was announced in mid-July.

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Other Borates you can offer for specific needs

COLEMANITE-High Grade...a slowly soluble lime borate for light and porous soils, or in regions of high rainfall. Content of B_2O_3 ranges from 32% to 35%. *Bulletin PF-2.*

POLYBOR-2...Highly soluble. Contains 20.5% Boron or 66% B_2O_3. Applies as a spray or dust; compatible with insecticides and fungicides currently in use and may be applied in the same solutions. *Bulletin PF-4.*

PACIFIC COAST BORAX CO.

USDA Announces Price Support Levels For Cotton, Peanuts

WASHINGTON—The U.S. Department of Agriculture has announced the average loan rate for 1955-crop upland cotton, basis Middling ⅞ inch, will be 31.70¢ lb., gross weight.

The department also announced that the average loan rate for 1955-crop extra long staple cotton will be the minimum rate announced in February, or 55.20¢ lb., net weight, with an average rate of 55.32¢ for American-Egyptian and 50.32¢ for Sealand and Sea Island.

Price support levels for 1955 crop peanuts were announced also by USDA. The prices are based on a national average support price of $244.80 ton, which is 90% of the Aug. 1, 1955 parity price of 13.6¢ lb. This minimum national average support level was previously announced by the department May 13, 1955 on the basis of the parity price at that time.

G. Worthen Agee, Cottonseed Industry Pioneer, Dies at 72

MEMPHIS — G. Worthen Agee, president of Barrow-Agee Laboratories, Inc., and a pioneer in chemical phases of the cottonseed industry, died at his home here July 25. He was 72.

Mr. Agee, whose firm is the largest of its kind serving the cottonseed industry, gained wide prominence during 54 years as a chemist. He founded Barrow-Agee Laboratories in 1917 with E. R. Barrow, who retired in February of last year as vice president and secretary-treasurer.

The first position Mr. Agee held after receiving his bachelor's degree in chemistry in 1901 at Louisiana State University, was an assistant chemist at the Louisiana Sugar Experiment Station in New Orleans. Later he was a chemist for the New Orleans Acid and Fertilizer Co.

Mr. Agee was one of a group of nine men who met here in 1909 to lay groundwork for an organization which became the Society of Cotton Products Analysts, later changed to The American Oil Chemists Society. He was active in other trade associations.

Beaird Appointments

SHREVEPORT, LA. — Three new managerial appointments in the Sales Department of the J. B. Beaird Co., Inc., have been announced by J. L. Tullis, vice president and general manager of sales. Malcolm B. McIntire, who recently joined Beaird as staff assistant to Mr. Tullis, has been promoted to manager of steel warehouse sales. Royce Walker, who has been a sales engineer in LP-Gas and anhydrous ammonia equipment sales division, has been promoted to acting manager of filling station and transport sales. Bob Barse, who has come to Beaird from Varrell Manufacturing Co., Dallas, where he was customer relations manager, will serve as staff assistant in the general sales department.

Hot, Dry Weather Favors Crops in Mid-South States

MEMPHIS—Hot, dry weather ha been favoring Mid-South farm crop

Extension Service officials in the weekly crop reports from Arkansa Mississippi, Missouri and Tennesse said the hot, dry weather had helpe the cotton crop and aided farmers i their fight against boll weevils an other insects.

Farm officials in Arkansas note that cotton was making too rap growth "to set up a good crop of fru in many fields." It was pointed ou that dry weather was needed to re tard stalk growth and induce th setting of fruit.

Boll weevils, bollworms and fle hoppers were reported doing som damage, but experts did not conside the situation critical. Pastures, soy beans and corn were reported in goo to excellent condition.

In Southeast Missouri, assistan county agent James T. Rollins a Caruthersville, reported the ho weather helped the crops and wa welcomed by farmers who had ha trouble harvesting their hay crop and fighting insects. The cotton an soybean crops are in excellent con dition, he reported.

Judd Brooks, West Tennessee district agent at Jackson, said dry weather during the past few days "has been invaluable to farmers who still need more dry weather to allow for effective poisoning of weevils and to allow for chopping.

"Corn prospects are the best th area farmers have seen in many years," he continued. "Pastures an hay are in abundance. Plowing fo fall seeding already is underway i many areas. Gardens are showing ex ceptionally well this year and lat tomatoes are good. Sweet potatoes okra and squash are in plentifu supply."

Crops generally remained in goo condition last week throughout Mis sissippi, the Agricultural Extensio Service reported.

Cotton in many cases is puttin on excessive growth and making in sect control difficult.

Soybean prospects are excellent for the first time since 1950, ac cording to W. R. Thompson, Ex tension agronomist. A good corn crop is assured in most areas.

Boll weevils continued to build u in numbers rapidly, said A. G. Ben nett, Extension entomologist, wh advises a continued poisoning pro gram with a shortened interval be tween poisonings. He recommends three or four-day interval durin showery weather and the use of quick killing insecticide.

Potato Growers Blame Poor Prices, High Costs

RIVERHEAD, N.Y. — Poor potat prices and high irrigation costs in th current drouth were blamed by th Suffolk County Farm Bureau as fac tors forcing the county's potato farm ers to sell land for real estate de velopment.

About 1,500 acres of potato farm land have been sold already, an more sales are expected.

Irrigation has been reported t have increased costs on some farm to $400 an acre to raise a potato cro

Along the ocean shore, potat farmers are having the added prob lem of protecting their crops fro erosion caused by water flowin through gaps in the dune dike syster

ALKALI STATUS

STATE COLLEGE, N.M.—C. W Chang and H. E. Dregne, New Mexi A&M researchers, have discovere that the alkali status of any soil ma be determined, with a reasonable de gree of accuracy, by analyzing th tissues of plants grown in the soil.

Quality is the watchword at the big, new V-C Triple Superphosphate plant at Nichols, Florida. Here, V-C Triple Superphosphate is produced so that it retains its natural, desirable texture—a big help to you in simpler, faster ammoniation in your plant. This superior texture also helps you cut down on recycling at your mixing machines. V-C Natural-Texture Triple Superphosphate is backed by many years of experience and production know-how. V-C pioneered in the production of concentrated superphosphate as far back as 1907, when it put into operation, at Charleston, S. C., the first large-scale plant in the United States.

Depend on V-C to supply your Triple Superphosphate needs. Newly-expanded facilities and years of skill in production now combine to bring you Natural-Texture Triple Superphosphate designed to fit your production programs. Write or call *now!*

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Progress with a Profit

Industry Management Opportunities

Management is one aspect of the over-all business operation and is related closely to sales.

The subject is broad and complex and several days could be spent discussing it. A few concepts are given here.

Business management is a word that we hear and use often. To different persons it may mean different things but here it means the whole field of those employees from the foreman to the top executive who have duties and responsibilities related to achieving the principal objective of the enterprise.

We see the terms "first line of management," "middle management," and "top management." While certain elements and requisites of management become more critical as we approach the top of the management structure we should never lose sight of the concept that management functions at many levels and has prerogatives of responsibility and authority at all those levels.

After all, a foreman is a person with a piece of the president's work to do. It is simply out of practical necessity that the president's job—that is, his responsibility—is divided into functions, delegated to others, authorized, and executed, but executed with accountability.

If we think of the future we are reminded of the past. In the past it has been the objective of business management to produce progress and operate at a profit. And these two objectives will remain the principal responsibility of management in the future. As we look about us we can conclude that management has been successful with its responsibility in the past.

But what about the future? I doubt very much if there is a person present who would argue that our methods of management which were successful in the past would be successful in the future. And yet, it can be argued that those basic qualities which made for successful management in the past will also produce success in the future.

This sounds somewhat like a paradox, but let us examine what management is. Is management an art, a profession or a technique? When we think of art we think of "playing by ear" using natural talents which have been developed through training. When we think of a profession we think of solutions through practice based on a framework of established criteria. When we think of technique we visualize method applied to a set of circumstances developed through experimentation.

Obviously all these have some part in management, yet management is not just one or all of these. Management is the ability to recognize and understand problems, develop ideas and arrive at decisions resulting from talent, practice and depth of judgment.

Future executives, like those of the past, must be able to move from comprehension to policy to action in new situations different from anything experienced. It is this ability which solves the paradox—the ability to move from one set of facts or ideas to another and thus advance the light of progress farther into the future. Is it not true that when an executive loses this ability he declines in effectiveness? A dynamic economy does not stand still. Executive ability is a dynamic force.

As we consider the spectrum of future management we see then that the whole composite of responsibility is continued progress at a satisfactory profit. When we examine the components of this spectrum we discover the elements of which it is composed. We can begin to separate them into areas within which management at all levels will be concerned. As we do this we discover that a new set of circumstances exists, and that progress at a profit in the future will require a new set of ideas and solutions.

What are some of these areas, can we recognize them, and what ideas might we develop as management solutions? If each of us made a list we would find a definite similarity. Such lists could be quite long. In the interest of brevity we will consider a list of ten.

Delegate Responsibility

1. The management structure of any company, regardless of size, must be better defined so that policies, and the responsibility for them, can be

(Continued on page 14)

EDITOR'S NOTE

Business management is tied into every aspect of a business operation and has as its main objectives the producing of progress and operating at a profit. C. Grattan Lindsey, Jr., president of Lindsey-Robinson & Co., Inc., Roanoke, Va., explained what management is, what it must do to be effective and outlined 10 areas where management could be improved at a recent feed industry convention. The accompanying is an excerpt from Mr. Lindsey's talk.

SHOP TALK OVER THE COUNTER FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Some sobering thoughts concerning price cutting come from the Agricultural Aircraft Assn., Inc., of Sacramento, Cal.

Cutting prices is often necessary to reduce overload inventory, pioneer new lines or get rid of obsolete or old merchandise, says the association's bulletin.

On the other hand most price cutting occurs when the merchant runs out of sales ability. But this only works against the merchant as it requires more sales effort to get higher volume.

As an example, the bulletin points out that cutting prices 10% requires that twice as much merchandise be sold to make the same profit if the normal gross profit is 20%. Another example: The normal gross profit is 25%. Cut the price 15%. It is necessary to sell 150% more merchandise to make the equivalent profit.

It is simple to cut prices but it is a difficult task to get prices back to normal with the customer. A critical look should be taken before the price cutting procedure is adopted. It may save regrets later on.

Worthy Testimonial

Louis Abbott, Morrison, Ill., ought to make his neighborhood fertilizer dealers happy with this testimonial on corn fertilization.

Only twice in the last 18 years has the average corn yield on his 210-acre farm fallen below 100 bu. For 17 years, he regularly won the district championship in the Illinois Crop Improvement Corn Contest. Since the contest was based 40% on cost of production, Mr. Abbott knows pretty well what fertilizer will do for him.

Mr. Abbott's philosophy has been to apply as much nitrogen, phosphorus, and potash as goes into a 150-bu. crop including stalks. He applies it all at one crack—1,000 lb. per acre, bulk-spread before plowing in the spring. He has this fertilizer specially mixed—230 lb. of fused phosphate (0-28-0) or its equivalent, 270 lb. of muriate of potash (0-0-60), and 500 lb. of ammonium nitrate (33-0-0).

Mr. Abbott admits there might be ways to apply that much plant food just as efficiently.

Mr. Abbott likes a lot of potash. He figures, "You better be long on potassium when you have a lot of nitrogen and have high plant populations."

Mr. Abbott's farm is moderately rolling, deep loose soil. One field has been in corn seven years, averaging 136 bu. per acre. He says he'll rotate when he thinks it needs it.

Promotion

Insecticide dealers in many communities are cooperating with restaurant, grocery and bakery operators by selling them on their line of fly killer. By supervising the fly-

(Continued on page 12)

By RAYMOND ROSSON
County Agent, Washington County, Tenn.

There are approximately $50,000,000 on deposit in the banks and loan associations of my county. Cold cash. I am wondering how much fertility is on deposit in the soils of the 120,000 crop acres in the county?

The dealers of my county might ask the same question about their county. Compare the amount of cold cash in your county with the warm cash on deposit in the farm land of your county. It will prove most interesting, I am sure.

A good many of our acres have been producing for some 175 years and are now more fertile and productive than ever. The fertility from these acres has built many homes, educated many boys and girls, built roads, schools, churches, yes even towns, and has bought much consumer goods and service.

Yes, good dealers have been a great help to their farmer customers in supplying them extra amounts of plant food to be placed on deposit in the good earth. And it is a pretty safe place, too, don't you think, especially in the hands of good farmers. It's a trust, so to speak.

From a fertile soil comes a better living, better understanding, better planning, better leadership, better business, better social relations and spiritual experience.

Farmers are depositing fertility now, for the food of tomorrow, for business of tomorrow, for living of tomorrow and peace of tomorrow.

We just wonder what the "fertility on deposit" in your county is worth? It's a good question, don't you think?

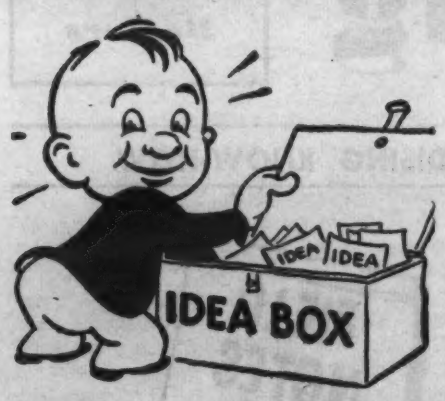
P.S.—Dealers: Have you discussed with your farmers who do not have enough alfalfa about seeding some more? Also what amount of plant foods alfalfa needs to do its best? Get your county agent and your farmers together in regard to the growing of more alfalfa. Did you ever see many farmers with too much alfalfa?

New England Fertilizer Conference Scheduled

POLAND SPRING, MAINE—The New England Fertilizer Conference will be held at the Poland Spring House here Sept. 28-29. Registration will be held Sept. 28, with the formal program and banquet set for Sept. 29. Reservations are to be made with the Poland Spring House.

DUSTER KILLED

MT. HOLLY, N.J.—Edward Fitzgerald, Robbinsdale, N.J., was killed recently when the crop-dusting plane he was piloting crashed near here.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6285—Sprayer

Two items have been added to the tractor mounted and Estate sprayer lines manufactured by the F. E. Myers & Bro. Co. The extended line includes a three point hitch tractor mounted sprayer and the Myers Baronet, a wheelbarrow type power sprayer. The three point hitch tractor mounted sprayer is designed for handling the wide range of chemical materials needed for weed, insect and disease control programs. A du-All spray pump provides pressures up to 300 lb. a sq. in. with discharge capacity of 6 gal. a minute. Secure more complete details by checking No. 6285 on the coupon and mailing it.

No. 6287—Liquid Fertilizer

The Schrock Fertilizer Service has announced an addition to its fertilizer line. The product is a liquid fertilizer called Liqui-Green with Leaftone, and is said to contain a balanced combination of nitrogen, phosphate and potash as well as trace elements such as sulphur, magnesium, boron, zinc, cobalt, iron, copper, molybdenum and manganese. Leaftone is said to be a chemical additive to facilitate better leaf absorption and prevent burning. One gallon of the product can be used with 50 gallons of water. Fifty five gallon drums are available. Small sizes for retail sales will also be available, according to the company. Secure more complete details by checking No. 6287 on the coupon and dropping into the mail.

No. 6292—Fly Repellent

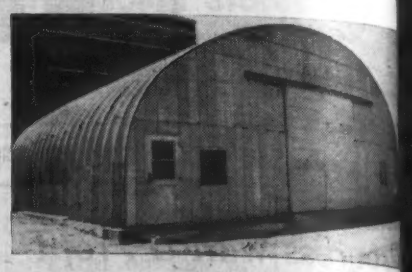
The Residex Corp. is now marketing a new Crag repellent formulation for biting flies on beef and dairy cattle. Resipel, as the product is called, combines Crag fly repellent and methoxychlor. One application is claimed to keep dairy and beef cattle free of horn flies, stable flies, horse flies, house flies, mosquitoes and gnats for well over one week—in both barn and pasture. The product, a liquid, is diluted with water before use and applied directly to the animal's hide. It may be sponged on or applied with any normal spray equipment. It can also be used on back rubbers and in treadle sprayers. Resipel is now available at leading local agricultural dealers. Secure more complete details by checking No. 6292 on the coupon and mailing it.

No. 6283—Aerosol Film

"The Spray's the Thing" is the title of a new color film about aerosols produced by the E. I. du Pont de Nemours & Co. (Inc.). The animated 16 mm. color film shows how the aerosol insecticide ("bug bomb") principle can benefit a typical family. It runs 13½ min. To secure more information about the film check No. 6283 on the coupon and drop it in the mail.

No. 6286—Thiophene

Sharples Chemicals, Inc., a subsidiary of Pennsylvania Salt Manufacturing Co., has announced it is now supplying commercial quantities of thiophene for use in the manufacture of dyes and pharmaceuticals. Thiophene is expected soon to be used in agricultural chemicals and other products, the firm states. Samples and a technical bulletin on thiophene are available by checking No. 6286 on the coupon, mailing it to Croplife.



chemicals, is announced by the Engineering and Research division of the Wonder Building Corporation of America. It is claimed that the building can be erected in a matter of hours by as few as two workers using nut and bolt fasteners. Erection costs are said to average 30¢ per square foot and purchase costs are $1.25 per square foot, for a complete building.

Company spokesmen say that the structure is designed to meet all building code requirements and will withstand wind velocities up to 125 miles per hour. Straight-wall construction facilitates mechanized materials handling procedures involving palletization or similar stacking operations. Walls rise vertically to a height of 9 feet before curving to form a semi-circular roof. The building shown is 48 ft. wide; others range from 30 to 50 ft. in width, and from 12 to 18 ft. in height. Secure more complete details by checking No. 6288 on the coupon and mailing it to this publication.

No. 6280—Slide Film

A new slide film in sound and color titled, "Weed Control in Peanuts With Crag Herbicide-1," is now available.

This seven minute film is provided without charge by Crag Agricultural Chemicals, Carbide & Carbon Chemicals Co., a Division of Union Carbide and Carbon Corp. Check No. 6280 on the coupon and mail it to secure the film.

No. 6276—Bagging System

New developments concerning its 9-in. single-screw feeder overhead and standard Richardson E-50 automatic scale system as used in one fertilizer plant are now available from the Richardson Scale Co. The installation referred to is at the Knoxville (Tenn.) Fertilizer Co. Richardson officials say that two men can now bag with acceptable accuracies as many as 15 hundred lb. bags per minute of the lightest fertilizer and 16½ hundred lb. bags per minute of a slightly heavier product. Secure more complete details by checking No. 6276 on the coupon and mailing to Croplife.

No. 6282—Screen Bulletin

Publication of bulletin 243, a new eight-page, two-color bulletin describing the Symons V-Screen is announced by Nordberg Manufacturing Co. This screen is specifically designed for fine screening, for sizing, dewatering, dedusting, cleaning, and washing. The bulletin states that the screen does not depend on gravity alone for its screening action, combining centrifugal and gravitational forces. Details of construction and operation are given. Secure the bulletin by checking No. 6282 on the coupon and mailing it to this publication.

No. 6272—Hose Pump

New features of the Liberty liquid fertilizer hose pump introduced by the Liberty Manufacturing Co. have been announced. The Krause Plow Corp. has acquired exclusive manufacturing and sales rights to this application device. Production of the hose pump is licensed by the University of Tennessee Research Corp.,

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6289—Feeders

A 12-page technical bulletin entitled, "Continuous Proportioning Equipment for the Fertilizer Industry," has been published by the Omega Machine Co., division of B-I-F Industries, Inc. The bulletin was prepared by Andrew A. Melnychuk, project engineer. Sections are devoted to phosphoric acid production, superphosphate, triple superphosphate, continuous compounding of fertilizer mixtures, proportioning of coating agent to hygroscopic materials and a summary. Chemical feeding and proportioning problems are welcomed by the firm's engineering and laboratory staff, the bulletin states. To secure the bulletin check No. 6289 on the coupon and drop it in the mail.

No. 6288—Steel Building

Development of a new "straight-wall" pre-fabricated steel building, featuring trussless construction, and designed to meet storage and warehousing needs of fertilizers and farm

Send me information on the items marked:

☐ No. 5225—Bagging Scale	☐ No. 6282—Screen Bulletin
☐ No. 5248—Blender	☐ No. 6283—Aerosol Film
☐ No. 5252—Stacker	☐ No. 6284—Booklet
☐ No. 6271—Pyrenone Spray	☐ No. 6285—Sprayer
☐ No. 6272—Hose Pump	☐ No. 6286—Thiophene
☐ No. 6275—Insect Applicator	☐ No. 6287—Liquid fertilizer
☐ No. 6276—Bagging System	☐ No. 6288—Steel Building
☐ No. 6277—Weed Killer	☐ No. 6289—Feeders
☐ No. 6280—Slide Film	☐ No. 6290—Pentasulfide
☐ No. 6281—Applicator	☐ No. 6292—Fly Repellent

NAME .....

COMPANY .....

ADDRESS .....

—SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL—

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(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

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Croplife

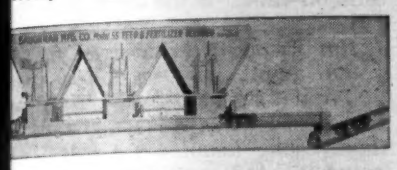
P. O. Box 67,

Reader Service Dept. Minneapolis 1, Minn.

hose engineers designed and pa-nted it. Improvements in the pump ve also been made by United tates Department of Agriculture gineers at Beltsville, Md., who ve been working with it for the st 18 months. The hose pump is a etering device which is said to ndle all types of fertilizer solu-ons, and is claimed to be accurate d free from stoppage troubles. ecure additional information by hecking No. 6272 on the coupon and ailing it.

No. 5248—Blender

Automatic blending of feed or fer-lizer in exact proportions is claimed r a new high speed batch or con-nuous mix blender introduced by aughman Manufacturing Co. The lender, designated as model 55, can lso be pre-set to deliver any quan-ty of feed or fertilizer desired, utomatically signaling or shutting self off when the specified amount as been delivered, without pre-iously weighing the material, the



ompany states. The unit consists f three hoppers, each of 49 cu. ft. apacity, emptying by conveyor belt nto a common auger-type conveyor ube, where the materials are mixed s they are conveyed to the cus-omer's truck. Flow of ingredients rom the hoppers is controlled by a ate which is set by a graduated cale to the required opening indi-ated by a blending chart mounted n the side of the unit. The blender an also be used as a batch mixer. he materials are weighed before eing loaded into the hopper, the ates set and the mixing operation tarted, with all three hoppers emp-ying simultaneously. Special size nits are also available. Secure more complete information by checking No. 5248 on the coupon and mailing it.

No. 5225—Automatic Bagging Scale

Richardson Scale Co.'s E-50 auto-matic bagging scale is described and illustrated in the company's new 6-page bulletin No. 3749A. The scale was designed for high-speed bagging with consistent weighing accuracy, according to the manufacturer. It has a normal capacity range of 5 lb. to 25 lb. or 25 lb. to 50 lb. Both open-mouth paper or textile bags can be weighed and filled with the scale, the company says. The bulletin in-cludes three suggested feeding ar-rangements for granular, powdered and pellet-size materials. Specifica-tions and optional features are out-lined in the bulletin and accessories as feeders, bagholders, sewing con-veyors, sewing pedestals and packers are described. For a copy check No. 5225 on the coupon and drop it in the mail.

No. 6281—Applicator

The John Blue Co. announces that its new rigid shank applicator is de-signed for use in tough soils where deflection of applicator blades is a problem. The announcement states that "four types are available for use with tool bars of almost every size and description. Exclusive truss frame design gives maximum strength with minimum weight. The shanks are constructed of alloy, heat treated steel. . . . " Another feature is claimed to be the clamp design which maintains the applicator in the cor-rect running position. "Heavy duty bolts provide adequate strength for clamping on the tool bar and a shear pin on the applicator blade prevents damage in the event an obstruction is encountered," the announcement adds and secure more complete de-tails by checking No. 6281 on the coupon and mailing it.

No. 6271—Pyrenone 606 Spray

A newly developed insecticide just announced by Niagara Chemical Division of Food Machinery and Chemical Corp. is Pyrenone 606 spray. This new spray is claimed to be non-poisonous and non-injurious to man, livestock and foodstuffs.

The product is an oil-free emulsi-fiable concentrate containing 60% piperonyl butoxide and 6% pyreth-rum. When diluted with water, it can be used for the following: A liquid grain protectant, a fruit fly spray and as an industrial and live-stock spray. It is recommended for food packers and canners where fruit flies and other insects are troublesome. Secure more details by checking No. 6271 on the coupon and dropping it in the mail.

No. 6275—Insect Applicator

A new, 4-row, granular, insecticide applicator has been announced by the E. S. Gandrud Co., Inc. Called the Gandy Hi-or-Lo Spreaderette, the new applicator is designed to provide effective corn borer control over a

period of several weeks with one ap-plication. Adjustable to heights of 3 to 6 ft., the unit drops granular DDT into the corn whorl where leaves attach to stalk.

Company officials claim that the machine is capable of handling all granular insecticides including aldrin, dieldrin, chlordane, heptachor, DDT and toxaphene, and permits effective control of cloverleaf weevils, chinch bugs, grasshoppers, army worms, sweet clover weevils, wire worms and spittle bugs, as well as corn borers. Check No. 6275 on the coupon, clip and mail it to Croplife to secure more details.

No. 6277—Weed Killer

A new, more concentrated, formu-lation of "Ammate" weed and brush killer has been announced by the Du Pont Co. Identified as "Ammate" X, the new formulation contains 95% of the active ingredient, ammonium sulfamate, instead of 80%. The new product is normally used at the rate of 60 lb. per 100 gal. of water instead of 75 lb. Containers for the new formulation are 60-lb. bags and 40-lb. fiber drums, corresponding to the pre-vious 75-lb. and 50-lb. containers. It is recommended as a foliage spray for control of woody plants, and as a stump treatment to prevent re-sprouting. Check No. 6277 on the coupon and mail it to secure more complete information.

No. 6290—Phos-phorus Pentasulfide

The addition of phosphorus penta-sulfide to the list of phosphorus de-rivatives available from Monsanto Chemical Company's inorganic chemi-cals division has been announced. The company's distilled phosphorus penta-

(Continued on page 14)

What's Been Happening?

This column, a review of news re-ported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Directors of Monsanto Chemical Co., St. Louis, and Lion Oil Co., El Dorado, Ark., signed an agreement of merger of Lion with and into Monsanto. Stockholders of the two companies will vote on the proposal Sept. 23. . . . The anhydrous ammonia industry is operating at only about one fourth of its potential, speakers said at the meeting of the Great Plains Anhydrous Am-monia Assn.

A survey conducted by the Agricultural Ammonia Institute indicated that use of anhydrous during the first five months of this year is 17% greater than during the corresponding period a year ago.

Formation of Phillips Pacific Chemical Co., which will erect an ammonia fertilizer plant in southeastern Washington, was announced by Phillips Petroleum Co. and Pacific Northwest Pipeline Corp., which will jointly own the newly-formed firm. . . . Shell Chemical Co. announced plans to build a new urea plant at Ventura, Cal.

The Food & Drug Administration extended the effective date of the pesticide tolerance amendment to Oct. 31. The former deadline was July 22.

Monsanto Chemical Co. announced it will market agricultural chemical formulations under the Monsanto label in a 15 state mid-western area beginning in 1956. . . . Southwest Agro Chemical Corp. said it will build a $2½ million plant at Chandler, Ariz. for production of anhydrous ammonia and other nitrogen products.

A harmonious meeting on the grain sanitation campaign, conducted by the U.S. Department of Agriculture, appeared to point toward a smoother path for pesticide sales in the clean grain drive. . . . Pakistan was awarded a $1,046,452 grant by International Cooperation Administration for equipment for a fertilizer factory.

Cities Service Co. and Continental Oil Co. have joined Mid-South Chemical Co. An expansion program calls for erection of an an-hydrous plant at Lake Charles, La. . . . Western Phosphates has de-veloped plans for expansion of its treble superphosphate and ammoni-ated phophate plant at Garfield, Utah.

The sixth annual Pacific Northwest Fertilizer Conference at Boise, Idaho, June 28-30, featured speakers from USDA, agricultural colleges, and custom operators from the western area. Reports were heard on fertility studies. . . . U.S. Tariff Commission reported that production of all pesticides and other organic chemicals in 1954 totaled 419 million pounds, an increase of 18% over the 356 million pounds reported for 1953.

Program committee members for the September meeting of the National Agricultural Chemicals Assn. (Spring Lake, N.J., Sept. 7-9) were named. M. R. Budd, Hercules Powder Co., Wilmington, Del., is chairman. . . . Members of the Association of Southern Feed & Fer-tilizer Control Officials met at the Jung Hotel, New Orleans, June 22-24. Frank E. Boyd, Virginia-Carolina Chemical Corp. pointed out the advantages of having fewer grades of fertilizers to avoid con-fusion and additional work. "Improvements in the number of grades must come through the cooperative effort of research, industry and education," he said.

A. P. Gates was named assistant to C. Cecil Arledge, vice president of Virginia-Carolina Chemical Corp. at Richmond and R. Andrew Jenkins was made manager of V-C's Baltimore sales office. . . . Dr. Norman A. Shepard has retired from his post as chemical director of American Cyanamid Co.

The National Agricultural Chemicals Assn. announced the appointment of Donald L. Miller as editor of the association's news service. He succeeds Scott Runkle who resigned recently.

Thunderbird Chemicals, Inc., announced plans for construction of a $13 million anhydrous ammonia plant near Kyrene, Ariz. President of the new firm is Fred Shanaman, also president of Pennsylvania Salt Mfg. Co., of Washington. A plant site of 122½ acres has been procured.

The Pacific Branch of ESA was told that only a small number of petitions for tolerances required under the Miller amendment, have been received by the Food and Drug Administration. Attendance at the meeting, over 400, broke previous records. . . . A new insecticide plant at San Antonio de Belen, Costa Rica, began production of var-ious formulations to be marketed in Central America. C. J. Fredrick-son was named chief operating executive of plant.

A series of revised index numbers of prices of fertilizer materials for the years 1910 to 1954 was published by the University of Maryland Agricultural Experiment Station's department of agricultural economics and marketing. The changes were made to "provide a more realistic picture of the comparative prices of fertilizer materials (some of which) no longer represent a significant quantity relative to the total of all fertilizer materials," according to Paul R. Poffenberger, University of Maryland.

The U.S. Department of Agriculture issued its national bulletin out-lining disbursement of some $250 million in the 1956 agricultural conserva-tion program. There are no major changes in the program. . . . The Depart-ment of Health, Education & Welfare outlined the conditions under which it will extend the effective date for the new Miller Law to apply to pesticides on a product-by-product basis.

Fertilizer consumption during 1954 totaled 20,508,000 tons, for a new record, according to the National Plant Food Institute. A NPFI survey shows, however, that sales for the 1954-55 fiscal year may be down as much as 4%.

Jim Franklin, a sweaty shirted farmer, who had a profitable herd of dairy cows, came into the Schoenfeld & McGillicuddy store late one afternoon. Pat was out, but Oscar sat rigidly and properly at his desk, so chubby Jim Franklin, sporting a day's growth of beard, walked over to the railing surrounding Oscar's and Pat's desks, leaned on the swinging gate, and said, "Well, Oscar, been doin' anythin' lately you shouldn't be doin'?"

Oscar looked up coldly. Apparently he failed to spot the humor in the remark. "I never do things I shouldn't," he said. "I plan my days far ahead." And he went back to inspecting correspondence, bills and statements.

Ordinarily this was a signal for anyone to leave, that the conversation was closed, but Jim Franklin apparently had lots of time. "You must be an exception, Oscar," he said. "Now, take me, I'm always gettin' my foot into it, so it seems. The other night a deacon of our church came over with his wife and all of us watched a television broadcast for awhile. I laughed at a joke I wasn't supposed to laugh at, and, boy, did my wife dress me down for it later. But I'm telling you, Oscar, that gal on the television program, she must have had a diet full of antibiotics, all right. She really was developed."

"I don't have television, either," Oscar said acidly, going on with his work. "Minnie and I feel we can't afford the money or the time."

"Oh, come now, Oscar," said Franklin, with a grin. "They tell me you've really got it salted away. You'll never starve."

"I don't believe in wasting it," Oscar said proudly.

"You got somethin' there, Oscar, but don't it get monotonous pilin' it up year after year? Don't you ever feel like gettin' out and kickin' over the traces?"

"No," Oscar said abruptly. "I like to plan my life."

Jim Franklin shrugged. "Well, we're all different, and I guess that's what makes this world an interestin' place. Just like a small town. It's a place where everyone knows what everyone else is doin', but they read the local paper to see if they have been caught at it."

This got a laugh from plumpish Tillie Mason, the bookkeeper, and Jim Franklin beamed. "Well, at last I got a laugh from somebody around here. I was beginnin' to think you were mummies. . . . Say—when is Pat coming back?"

"He didn't say," declared Tillie. "He's out visiting customers."

"Oh, well, I suppose I can see him some other day," said the farmer resignedly. "But the old lady's over at the Peerless Department Store lookin' for some shorts to wear to the Farmers Picnic Sunday, and I hate shoppin'. I moseyed over here thinking maybe Pat would have that dairy picture exhibit ready."

This remark caused Oscar to look up suspiciously. "What dairy pictures?" he asked.

"You know," said Franklin, "those pictures Pat took of my dairying operations. Must have shot about 20 of them. I tell you, Oscar, my wife and I are pretty happy that you and Pat picked my dairy farm as one to feature on your bulletin board."

Oscar worked his mouth hard, but said nothing. He just stared.

"Yip, and I think it's a smart idea, too," stated Franklin. "If you and Pat tell the whole story about how we make money with our cows, and show pictures, and tell what feeds, what spray and what methods we use—and tell about fly control—then a lot of other dairy farmers are gonna get ideas of their own. 'Course I don't say I'm the best dairy farmer in the area, but I'm able to buy Copenhagen regularly, if you get what I mean." And the jovial farmer leaned over the railing in an attempt to give Oscar a companionable slap on the back. But Oscar's chair was too far away and the farmer's hand merely swished air.

"Pat took the pictures already?" Oscar asked.

"Why, sure," Franklin said. "Didn't he tell you? Told me he'd give me some extra copies."

Oscar groaned. Only a few weeks ago Pat had taken pictures of county truck weed spraying activities and given many prints to county highway crews. This generosity had almost disrupted the partnership at the moment, but the fact that Pat got a lot of weed chemical business from the county and from farmers who saw the posted pictures in the farm supplies store, helped to hold the partnership together.

"I tell you, Oscar, that you and Pat are a couple of smart cookies," Jim Franklin said complimentally. "Now you go ahead and play up a leading dairy farmer like me, then show a case history of a leading poultry farmer, then one of a hog farmer, etc., and you'll really give the average farmer something to get his teeth into."

"Poultry farmer case history? Hog farmer?" Oscar's face was pale. Was Pat going wild?

"Yeah, it's a good idea," went on Franklin, "because in those pictures you're bound to show us using fertilizers, farm chemicals and other things you sell—so that's good advertisin'. I tell you if only us farmers would get the lead outa our pants and advertise like you fertilizer men, we'd start to get someplace."

"Advertising costs lots of money!" burst forth Oscar. "Money! Money! Money! I like to keep some of it in the bank!"

"Huh, what's that you're sayin'?" demanded Franklin. "Advertisin' costs money? Why advertisin' is just like fertilizer, isn't it?"

Oscar looked puzzled. "How do you mean?"

"Well, you fellows are always tellin' us farmers that for every $1 we put into fertilizer we get back up to $ in crop returns."

"That's right," Oscar said seriously. "If the fertilizer is used properly you always get much more than your money back."

"Well," said the farmer, "when you feed and fertilize men advertise you are fertilizing the market. You invest a dollar in advertising and you get back double your money and more if you do it right. Same as our business, isn't it?"

"But not quite," Oscar said, not knowing how to deal with this approach.

"Well, if you fellows don't believe in your advertisin' then maybe you shouldn't believe in what you tell me about fertilizer," Franklin suggested a little darkly. "Maybe I ought to quit fertilizin' for one year and take a chance, and—"

"Oh, no," protested Oscar, who couldn't think of losing all this business from such a fine customer as Jim Franklin, who always paid his bills on time. "Some advertising does pay, I guess."

Jim Franklin grinned. "I thought you'd admit it, Oscar. You know you're not such a bad guy." He paused for a second, then said, "I had a dandy joke about a fat lady I was going to tell you, but I forgot it. Well, it'll keep until next time. So long. Give Pat my regards."

AGRONOMY AWARD WINNER—Winner of the 1955 Agronomy Achievement Award for students at Alabama Polytechnic Institute is James Rudolph Williams, of Castleberry, Ala. (left), who is shown receiving a cash award of $200 from Dr. Willard H. Garman, chief, agronomic relations, for the National Plant Food Institute, the sponsors of the award. Mr. Williams is a senior in the API School of Agriculture, at Auburn. An outstanding student, he received the freshman and sophomore Sears-Roebuck scholarships. In his junior year, he was awarded the Alabama Seedmen Assn.'s scholarship. He was active in organizing the Agronomy Club on the campus, and worked as a student analyst in the Soils Research Laboratories. In addition to receiving a cash award, Mr. Williams will have his name engraved on the NPFI Agronomy Achievement Award plaque. The first recipient was George M. Anderson, of Coffeeville, who was graduated with honors in June at the Alabama Polytechnic Institute.

OVER THE COUNTER

(Continued from page 9)

killing operations in a few of these prominent shopping places the dealers are able to judge whether a thorough job is being accomplished.

In return the cooperating retailers allow the insecticide dealers to display a prominent sign which calls attention to the fact that the restaurant, grocery store or bakery is being kept free of flies by "—— Fly Killer." In some cases the insecticide dealer will provide the fly killer without charge, stating on his display poster that "You can eat (or shop) in comfort in fly-free quarters, thanks to new —— Fly Killer. Compliments of Jones Farm Chemicals Store."

Promotions of this kind will soon make your store known as your county's headquarters for farm chemicals of all kinds.

Negative Approach

While the negative approach to selling is seldom heard nowadays except perhaps in cases of inexperienced salesmen, it is well that everyone connected with selling avoid this error of salesmanship.

If you should casually ask a prospective customer "You don't need some insecticide today?"—the only logical answer that he can give you is "No." Further, it isn't an invitation to buy, it is merely a statement which asks, "Don't you agree with me?"

Your sales staff should avoid negative type statements because they don't sell.

QUOTE

There's still a lot of room for progress in agriculture. Our crops are still menaced by some 30,000 known diseases. We lose 10% of our meat production to livestock diseases and parasites. Rodents and insects damage grain enough to feed about 10 million hogs. About one fourth of some of our fruits and vegetables spoil before they reach the consumers' tables.—West Virginia University Extension Service.

A Well Trained Employee Is Easy to Spot

By AL P. NELSON
Croplife Special Writer

I was driving with a friend the other day in his new automobile. He stopped at his favorite filling station for gasoline, and also had the oil checked as a matter of course.

The new attendant fumbled with the catch for the hood, didn't seem to know what to do. Finally he got the hood up and anchored, then began looking for the oil stick. He couldn't find it, and then the car owner said rather irritably, "It's on the other side."

"Oh," said the attendant, "they changed it this year then. It always used to be on this side."

After we drove off, my friend said, "I like Bill Jones who runs that filling station. I always get my gas and oil there, but I never let him grease my car."

"Why not?" I asked.

"Because his attendants never seem to know what they are doing. I'm afraid they'll skip half the spots to grease on my car. You'd think Bill would train his men better."

Yes, Mr. Dealer, it pays to train your employees. Are you doing your part to train your employees so that they can properly represent you when farmers come to the store to buy? Do untrained employees destroy good will, create customer uneasiness, nip off extra sales opportunities, just because they haven't been properly trained?

Employees Represent You

You may be a good, hard working dealer and stock excellent products, but if your employees are not properly trained they can nullify all these other good qualities which you have. Your employees are the persons who represent you to most customers. It is more important that you train them properly than it is for you to remodel your mill and store. If your employees are well trained, they can win enough extra customers and volume for you, so that you pay for your remodeling out of extra profits over a period of years.

But if you remodel and your employees are not properly trained, they can head you for a sheriff's sale before very long. I heard a sales training instructor tell a group of employers not so many weeks ago that if employees are not up to par, it is the fault of the employer.

That is putting it rather bluntly, isn't it?

Because competition is more keen now than for some time, and because farm prices are down a little, farm store selling needs to be better from top to bottom. Better trained sales people are the first tools you can use to fight any slump in sales.

Several years ago, a farm dealer told me, "My employees just don't seem interested in a consistent employee training program."

That was yesterday, Mr. Dealer, not today. Today, if an employee tells you consistently that he isn't interested in taking such training, then you step right out and get yourself employees who are willing to take such training. The labor pool is bigger now, and you are in the driver's seat.

I have walked into farm stores during the past year and found two or three employees just standing around, because trade happened to be light. In some instances those retail sales rooms could stand plenty of cleaning. The dealer, in this case, happened to be out in the yard trying to sell some farm machinery to a customer, but the employees made no effort to do a little work in his absence. Most certainly this was clearly a lack of adequate employee training. Evidently these employees had to wait to be told to do something, instead of exercising a little ingenuity.

The least one of them could have done was stand at the door and open the door for farmers and smile at them.

In the employee training programs, I believe that farm dealers should impress upon employees the fact that customers watch them and their actions and attitudes as much as they watch those things in employers. If the employee knows that the customer is judging him on attitude and performance each time he comes to buy, this is enough of a challenge to an employee to spur him to better effort. After all, very few employees like to appear in a bad light in customers' eyes. With the proper training the employees will at least become aware of customers' attitudes.

Employee training has several very important advantages, which a dealer will do well to consider:

1. It shows the employee that the dealer realizes that he is an important part of the business.

2. It shows the employee that individual performance can be improved through training, and this raises his self esteem.

3. It shows the employee that advancement in position and pay is more likely through employee training than on taking events as they come. It arouses the employee's initiative—when he has this quality.

4. Employee training also benefits the employer, for he tries to live up to the precepts which he teaches to his employees.

Bigger Budget Asked for New Jersey Station

NEW BRUNSWICK, N.J.—A budget request of $2,344,241 for the New Jersey Agricultural Experiment Station for 1956-57 was approved by the board of managers of the station at its quarterly meeting here recently. This represents an increase of $341,682.88 over similar items in the current year's budget.

Dr. Ordway Starnes, assistant director of the Experiment Station, discussed several areas in which farm research needs additional emphasis. Among these he listed diseases of field crops such as stalk rot of corn, diseases of small grains, and crown rot of alfalfa; the tomato research program which includes virus disease studies and the production of mother stock seed of the Rutgers and Queens varieties; studies of floricultural crops; forestry research; spectrographic analysis of soils and investigations of troubles being encountered in apple storages.

Lindley G. Cook, associate director of the Extension Service, discussed the need for more extension educational specialists in the fields of vegetable production, entomology and marketing. A greatly increased demand for information on how to control insects infesting houses and ornamental plantings has arisen because of the new housing construction which has occurred throughout the state, Mr. Cook said. Increased federal funds available this year for extension work will help to provide this, he indicated.

California Pathologist On Special Study at Connecticut Station

NEW HAVEN, CONN.—Dr. George A. Zentmyer, plant pathologist on sabbatical leave from the University of California Experiment Station at Riverside, is at the Connecticut Agricultural Experiment Station for further study of fungicides and plant disease control through chemotherapy.

Dr. Zentmyer, who will remain here through August, is conducting research on fungicides with Dr. James G. Horsfall, director of the station, and Dr. A. E. Dimond, head of the Department of Plant Pathology and Botany.

Dr. Zentmyer was a member of the plant pathology staff here from 1940 to 1944, and left to work at the California station. While at New Haven, he and Dr. Horsfall initiated chemotherapy as a new approach to control of Dutch elm disease.

They found that sufficient amounts of several organic chemicals can be applied internally to prevent or retard progress of the fungus which causes Dutch elm disease, without serious injury to the trees.

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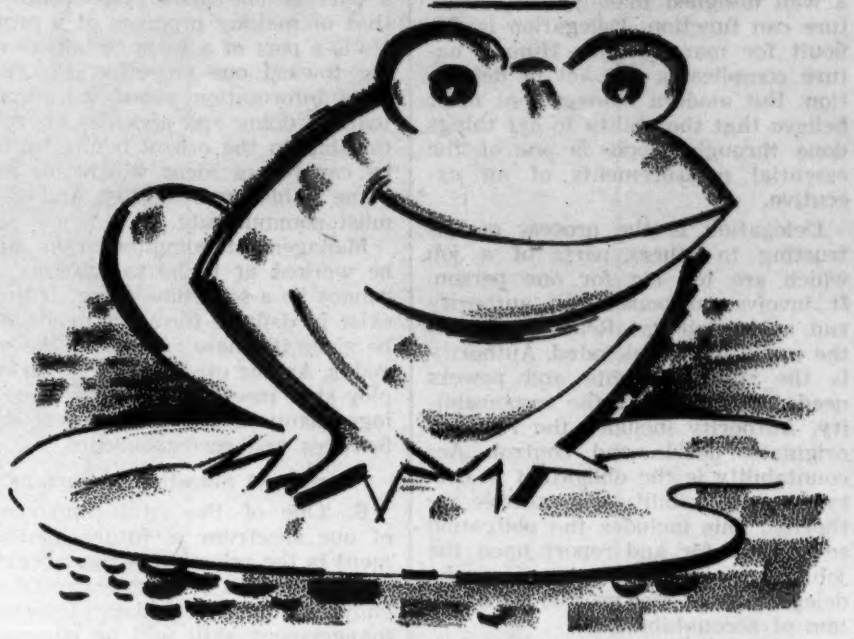

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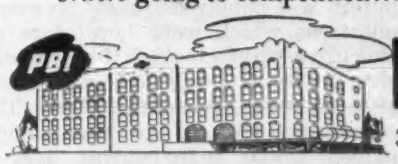

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MANAGEMENT OPPORTUNITIES

(Continued from page 9)

delegated more accurately. Unless this is accomplished, misunderstanding will lead to failure of responsibility, overlapping and internal friction. The function and responsibility of departments, and of sections within departments, should be defined in writing. The opportunity for maintaining satisfactory profits will be handicapped if the functional assignment of responsibility from top management down is inaccurate or hazy or indefinite.

2. Management at all levels must learn the skill of delegation so that a well designed management structure can function. Delegation is difficult for many people. Human nature complicates the act of delegation. But modern management must believe that the ability to get things done through people is one of the essential measurements of an executive.

Delegation is the process of entrusting to others parts of a job which are too big for one person. It involves responsibility, authority and accountability. Responsibility is the work that is delegated. Authority is the sum of rights and powers needed to carry out the responsibility. Authority includes the right to originate, decide and control. Accountability is the obligation to carry out responsibility and exercise authority. This includes the obligation to account for and report upon the job being done. A manager who delegates must also provide for a system of accountability.

3. The business program of a company, and the progress which it intends to realize, must be planned more carefully into the future and for longer periods of time. Too many businesses operate on short term plans, or almost no plans at all, following a "wait to see" policy. Such a policy is a substitute for planned management and a very poor one. Business planning should be based on intervals of not less than five years, and still longer periods are desirable. Some leading industrialists today advocate one business generation, or 20 years, as a minimum.

There is, of course, the compelling necessity to develop plans of a specific character for without them real policies cannot exist and management canot be effectively objective. Good planning is often a weakness in companies. Long range plans are a requisite of good planning.

Written Policies Needed

4. Successful business management of the future will need more clearly defined policies on all particulars, and in written form. The size of a company is of no consequence. Even a one man outfit would benefit from the experience of deciding on a policy and putting it in writing. The very formulation of the words is a rewarding mental experience and frequently results in a more clearly defined or understood policy which may have existed in practice for years.

Written policies assembled in manual, or in whatever form, are a valuable management tool. As a policy becomes implemented, and as the responsibility for it becomes delegated, management effectiveness is possible through improved accuracy of application and control. It is obvious that individuals cannot be held accountable for responsibilities they do not understand.

5. It is increasingly important to develop adequate media of communications throughout the management structure. Management deals in ideas, not things. Ideas are expressed in words either oral or written. Management must communicate understanding of ideas or it does not exist. This communication must be vertical and horizontal, and in both directions.

In spite of certain inherent drawbacks we find that good management results from a degree of specialization in limited areas of company operations. The individual concerned with his own special subject must be able to originate the right plans, develop the right ideas, and make the right decisions which pertain to his responsibility.

But as we have seen, his is only a part of one main responsibility—that of making progress at a profit. He is a part of a team or unit working toward one objective. He must have information about what the team is doing and appraise his relationship to the others before he can be capable of ideas which are germane to his responsibility. And so he must communicate.

Management communication must be worked at to be satisfactory. It cannot be a sometime thing. It must exist in definite forms of media and be given its share of time on the calendar. Among other things it can employ staff meetings, committee meetings, manuals, bulletins, reports, conferences and correspondence.

Personnel Selection Important

6. One of the vital components of our spectrum of future management is the selection of management personnel. This one subject could occupy us for several days. Increased management skill will be necessary for success in the future. It would be difficult to describe any recognizable pattern of management selection at the present time. And yet there seems to be a set of concepts emerging which may formalize in the near future into a more determinable basis for measuring management skills. Someone has said that an ounce of selection is worth a pound of training.

In thinking of management selection for various positions we are, of course, faced with the necessity for some specialization. But special knowledge is certainly not enough equipment for management. An awareness of this point is growing. Take, for example, the interesting situation of the future where computers will supply decisions on many questions which were heretofore an executive product. And the competitive ability of computers will be the same between several companies. The advantage will go to those companies whose management does a better job of handling the qualitative factors.

Simply stated, the work of managing is to work in ideas through people. It has been said that the most valuable commodity in management is ideas. The origin, development and evaluation of ideas is a product of the mind disciplined to creative conclusions free of the emotional distortions. But ideas in themselves do not have life. In business application ideas must be given form and substance, and eventually action.

From this we may generalize by saying that in selecting management personnel for the future we must seek those who have talents in addition to their specialization equipment which will enable them to cope with an ever-changing set of problems, and to activate decisions which will stand the test of sound judgment.

Continued Training Needed

7. The previous point is logically followed by this requisite of future management — continued management training. More companies must realize the value and necessity of organized management training on a continuous basis. This may be both within and without the company structure, but does not refer to the "do-it-yourself" type of training.

Fortunately we now have an ever-widening source of training facilities. Many of these are conducted by colleges at very reasonable cost, or by associations, or by private management organizations. These programs serve to continue the education of management people and in so doing stimulate the well-springs of their natural talents. In a practical sense they continue to define and organize new concepts of management toward the time when we may have a more specific set of standards and values against which to measure management action.

If the future demand is for higher management skills, progress and profits will require a never-ending process of training and development. We have a saying in our outfit which goes—"your ability today is not satisfactory six months from now."

8. The relationship of a company to all its employees, which resolves itself into a management function, is now and will become increasingly important to progress and profits. All this we call "personnel relations," and we now find the personnel department taking an essential position in total company management. We have many small companies in the feed industry, and no doubt it is often felt that a personnel department is a luxury which cannot be afforded.

My suggestion is that if you have as many as 75 employees you should have a full time personnel manager. If you have less you still have the problems of constructive personnel administration which should be organized into one package, identified as such, and delegated to some person on the management team. The important thing is that personnel administration be recognized as a definite area of management with its own set of responsibilities.

It is extremely important that we realize throughout management the possibilities of good personnel administration. We will always be working with people, trying to lead them together as a group toward a common objective. There are great potentials for American industry in this field. We may safely say that the total of human talents and resources available to us in each company is never fully realized.

Personnel work seeks to raise this level of realization by enabling individuals to find greater satisfactions from their jobs through the development of unused skills and the relating of themselves to a joint effort with others in which they have a place and a part. This seems so obvious that it is a mystery why we have done so little about it. Let me again remind all members of management that personnel administration works through us, not around us, or in spite of us.

9. Management will need to give careful consideration to the fact that wages and salaries will continue to rise, and that this is desirable. The detail of how much and how fast is important, but incidental to the idea.

We are now a large industry of nationwide structure. We must find ways of raising the real standards of our people as a part of our social and economic responsibility. We have three main possibilities—further improvement in production methods to reduce manufacturing costs, better methods of distribution which will undoubtedly come as a natural development, and better nutrition through research with consequent savings to farmers and some additional return to the company.

10. The last component in this spectrum of our future, keeping in mind that this is only a selected list of areas for management activity toward continued progress and profits, might be called the improving teamwork for greater management efficiency and effectiveness. As business becomes more complex and sound decisions more vital, management increases in difficulty. Individuals find their several functions more related to other functions where a meeting of minds serves to bring together the skills of specialization. A functional team is the result.

To serve this need the use of committees is helpful. To be sure, management by committees has serious limitations and if improperly handled can result in a lack of action. But in our thinking the advantages outweigh the disadvantages. There are several reasons, among them these:

A balanced viewpoint reduces the chances of extremes.

Several heads are better than one and if several persons can reach an honest agreement on an idea the chances are it is sound.

Committees benefit from diversified experience.

The necessity of having to work out agreements with others requires digging deeper into the analysis of problems.

It shortens and organizes communications.

It forms a record of the development of major policies for future review and re-evaluation in the light of actual experience.

It contributes to continued management development.

If management committees are used, their function should be defined and their operation planned including the adoption of basic agendas. The chairman of each committee must accept full responsibility for the area of management in which his committee functions. He must bring the committee to action and ascertain the effectiveness of assignments thereafter.

WHAT'S NEW

(Continued from page 11)

sulfide, made with pure electric furnace phosphorus, is being marketed as a greenish yellow granular powder. Typical analysis is 27.9% phosphorus, 72.0% sulfur, and a melting point of about 280° C., the firm reports. The P_2S_5 also can be made available in solid form. Powdered material is packed in 150-lb. and 325-lb. drums. Secure more details by checking No. 6290 on the coupon and mailing it to Croplife.

No. 6284—Booklet

The Granulite Co. has published a booklet entitled, "Granulite Ag-Slag." The product, Ag-Slag, is described in the booklet as a liming material containing the minor elements: manganese, sulphur, boron, copper, iron and zinc. Facts about the product, the properties of calcium silicate slag, trace element composition and comments by users are included in the booklet. Dr. George N. Hoffer, consulting agronomist, is author of the foreword. Secure the booklet by checking No. 6284 on the coupon and dropping it in the mail.

No. 5252—Stacker

A load handler called by the trade name, Grand Lift King, has been announced by the Allied Manufacturing & Sales Co. The unit is described as a streamlined fork or platform lift stacker powered by one or two batteries. Fourteen models with load capacities of 750-3,000 lb. are available. Lifting heights range from 60 to 100 in. Full information may be obtained by checking No. 5252 on the coupon and mailing it.

Mr. Dealer--Cut out this page for your bulletin board

BUG OF THE WEEK

Harlequin Bug

How to Identify

As shown above, the harlequin bug is broad and squat. In life, it is about ⅜ inch long and is spotted, red and black. From early spring to the winter months, it can be found in various stages of development. Nymphs look quite similar to adults.

Damage by Harlequin Bug

Although this insect attacks many kinds of vegetables, fruit trees and field crops, it does its greatest damage on cabbage and related crops. It feeds on cauliflower, mustard, horseradish, turnips and Brussels sprouts as well as on cabbage. Its damage lies in sucking sap from plants, causing them to wilt and usually to die. If not controlled, harlequin bugs will destroy an entire crop. It resides in the southern half of the U.S. and is said to have entered this country from Mexico.

Life Habits of Harlequin Bug

Eggs, laid on underside of leaves, hatch in from 4 days to a month, depending upon the warmth of the climate. The young start feeding on plants almost immediately after being hatched. They continue to feed and to grow for one to two months and develop through five distinct instars before reaching the stage where they can mate and lay eggs for a succeeding generation. Thus, the harlequin bug may bring forth three generations and part of another in a season. Only the adults are able to survive winter weather in the northern range of their existence.

Control of Harlequin Bug

Chlordane at 1 lb. an acre has been satisfactory in control of this pest, and chlordane dusts as low as 2% are said to be effective. Toxaphene, 10% dusted at 40 lb. an acre or spraying at 2 lb. 50% wettable powder to 100 gal. water is similarly effective, as is DDT, 10% dusted at 40 lb. an acre or sprayed at 2 lb. an acre, 50% wettable to 100 gal. water. Nearer harvest time, dusts or sprays of rotenone are advised, or dusting with 20% sabadilla is suggested in the literature. In smaller cabbage areas, it is possible to use cultural means of control such as keeping the patch free of weeds which harbor the pest, and even picking the bugs by hand and destroying them. Obviously, however, the latter is far too time-consuming for anything other than in a very small area.

Picture of harlequin bug furnished Croplife through courtesy of U.S. Department of Agriculture.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

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Treats the chemistry of insecticides, the history of their use, their commercial importance here and abroad, the nature of the major uses, the influence of environment on effectiveness. Materials are arranged according to their chemical relationships. Two chapters relating to organic compounds largely new as insecticides. Illustrative data in form of tables, and a convenient appendix of equivalents arranged for practical use in the field. 504 pages $7.00

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T. F. West and G. A. Campbell

The first and major part of book is devoted to the physical and chemical properties, manufacture, formulation and applications of DDT. The second part deals with other chlorinated hydrocarbons whose insecticidal properties have been discovered recently and compares these new insecticides with DDT. The preparation of aqueous suspensions, solutions, emulsions, and dusts containing DDT, the compatability of DDT with other insecticides, fungicides and additions are covered in detail. Contains dozens of tables on the solubility of DDT in various solvents, the catalytic activity of accessory substances in the presence of DDT, analogues of DDT, the comparative toxicity, hydrolysis and solubility of DDT analogues, the toxicity of DDT for almost all important insects, etc. Many illustrations $8.50

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H. T. Fernald and Harold H. Shepard

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CHEMICAL BUSINESS HANDBOOK *Dr. John H. Perry*

1,300 double column pages, the equivalent of several average books; 700 illustrations, by 124 contributors. Market research data section is 280 pages, business mathematics 209 pages, financial and accounting 142 pages, research and development 150 pages, sales and advertising 92 pages, twenty sections in all. The book deals with chemical management problems and is useful to technical men, engineers and executives, in the chemical and allied fields. Dr. Perry is editor of the Chemical Engineers Handbook, a companion publication $17.00

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IG BOY PURCHASE—Above are the principals in the sale of the Oklahoma ertilizer & Chemical Co. to the newly-formed Nichols Fertilizer & Chemical o. of Oklahoma City. From left to right are W. Frederick Nichols, secretary-reasurer of the new firm; Earl Nichols, president of the new firm; Lester E. ox, head of Oklahoma Fertilizer & Chemical Co., and Keats Soder, real state broker. Oklahoma Fertilizer & Chemical Co. makes Big Boy and Sun-lower fertilizers. The lower photo shows a view of the Big Boy plant con-tructed near Wheatland, Okla., in 1952. (See story on page 1.)

Wallace E. Gordon To Head Du Pont Advertising Department

WILMINGTON—Wallace E. Gor-on, assistant director of sales of the rasselli Chemicals Department of he Du Pont Co., has been named irector of the company's Advertising epartment, effective Sept. 1. The resent director, William A. Hart, etires at the end of August.

Mr. Hart rounds out a 31-year areer with the Du Pont Co. next onth. He will be 65, retirement age, n August.

He is a former president, vice resident and director of the Associ-tion of National Advertisers and a ormer vice president of the National etter Business Bureau and the Ad-ertising Federation of America. He as been a director of the Audit ureau of Circulations since 1927, nd was chairman of the board of irectors of that organization in 1952 nd 1953. He is a director of the dvertising Research Foundation, nd has spoken and written widely n advertising and merchandising ubjects. A native of Fredonia, N.Y., Mr. Hart was graduated from the niversity of Michigan.

For a year prior to joining the u Pont Co. as director of the Ad-ertising Department in 1924, he was irector of marketing and production or the Elliott Service Co. in New ork.

Mr. Gordon, 47, joined the Du ont Co. in 1933 as a research chem-st.

ulfur Production

WASHINGTON — The domestic ulfur industry produced 455,508 long ons of native sulfur and 35,800 tons recovered sulfur (of a purity of 7% or greater) during May, accord-g to reports of producers to the ureau of Mines, United States De-artment of the Interior. Producers' tocks of native sulfur decreased om the previous month and at the nd of May totaled 2,924,882.

Washington Editor Cited For Achievement in Agricultural Communications

OMAHA—Mrs. Anna Jim Erick-son, extension information specialist at Washington State College, has been named winner of an award for achievement in agricultural com-munications by the American Associ-ation of Agricultural College Editors and the National Plant Food Council.

Announcement of the award was made by William B. Ward, chairman of the Department of Extension Teaching and Information at Cornell University and president of the American Association of Agricultural College Editors, which held its annual meeting here recently.

Mrs. Erickson was presented a $500 check and a scroll by Louis H. Wilson, secretary and director of information for the National Plant Food Institute, Washington.

Purpose of the award is to provide an opportunity for the member of the association who has shown nota-ble growth in competence and achievement in agricultural com-munications to receive advanced pro-fessional improvement training in some phase of agricultural informa-tion work.

Mrs. Erickson was selected to re-ceive the first annual award for her outstanding achievement in inter-preting and reporting agricultural and home economics developments af-fecting Washington farm families, and for initiating and carrying out an effective informational training program for county extension agents and 4-H Club leaders.

Chemical Enterprises Moves Headquarters

NEW YORK — Chemical Enter-prises, Inc., moved its headquarters Aug. 1 to a new location in the Lin-coln Bldg. at 60 East 42nd St. The firm previously had its headquarters at 7 East 42nd St. The telephone number remains Murray Hill 7-3545.

FDA

(Continued from page 1)

time prior to the 30th day of the effective date of this order (July 25, 1955) file objections thereto. Such petitions of objection must show wherein the person so filing will be adversely affected and shall be re-quired to specify the provisions of the order deemed objectionable and reasonable grounds for such objec-tions and may request public hear-ings.

The second such application for tolerance was for heptachlor. This was withdrawn without prejudice to a future filing and was amended in respect to certain other agricultural commodities. The application carried the certification of the Secretary of Agriculture that this pesticidal chem-ical has useful purposes for which the Food and Drug Administration has decided to grant an extension of tolerances.

In its action, FDA ruled that this chemical may show residual retention of 0.1 ppm for residues for the use on the following raw agricultural commodities: alfalfa, clover, sweet clover; beets (includ-ing sugar beets); cabbage, brussels sprouts, kohlrabi, cauliflower; corn; cotton; pasture and range grass; onions; peanuts, sugarcane; sweet-potatoes; turnips with tops and rutabagas (yellow turnips) without tops.

Persons adversely affected by this ruling have 30 days from the effec-tive date of this ruling—July 28, 1955—to submit objections and to specify precisely those provisions which ad-versely affect them.

Sales Manager Named

WICHITA—Henry L. Grimme, Jr. has been named sales manager of the Reid Supply Co., according to an announcement by Walter S. Trom-bold, president. The firm deals in industrial and agricultural chemicals and laundry and dry cleaning sup-plies.

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PROTECTION

against

HORNFLY...
LICE...
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DEERFLY and GNATS
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RESIDEX RESIPEL*
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*PROOF based on extensive field tests!

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ONE to THREE weeks

WORKS EFFECTIVELY IN BOTH BARNS AND PASTURE AREAS

as advertised on PHIL ALAMPI'S FARM NEWS
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DISTRIBUTION AREAS AVAILABLE

1500 WEST ELIZABETH AVENUE LINDEN, N. J.

WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

British sulfate and sulfuric acid manufacturers are on the verge of completing a major conversion and construction program aimed at reducing the industry's dependence on imported sulfur. Sparking this activity was the sulfur shortage that accompanied the Korean war.

Decided upon was a fourfold increase in plant capacity for anhydrite acid, a one-third increase in that for spent oxide, and a threefold increase in that for imported pyrites.

One of the firms involved in the expansion is Solway Chemicals, Ltd., located at Whitehaven, Cumberland. The first unit is now complete and ready to go, while the second will start up shortly. The extended acid plant of Imperial Chemical Industries, Ltd., at Billingham recently came into operation. Supplies from the Widnes plant of the United Sulfuric Acid Corp., sponsored by 11 major consumers of acid, are expected to come onto the market within the next two or three weeks.

The Solway Chemicals plants have a total potential of 100,000 tons acid a year and of this 50,000 tons will be available for purchase by industry.

The effective acid capacity for the U.K. as a whole has been estimated by the British Sulphur Corp. at 2,180,000 tons for 1955, with an increase to 2,260,000 tons next year. In 1954, total production was 2,050,000 tons.

It is apparent, observers say, that the industry will be facing an extreme competitive position for the next two or three years as the new production becomes available. However, after that lapse of time it is expected demand will catch up with supply and the industry will find itself more or less in a balanced position.

New Pest

A new pest is attacking wheat from the U.S. boundary to the interlake region of eastern Manitoba, according to Prof. A. G. Robinson of the University of Manitoba entomology department. It is a previously unknown orange colored maggot and some wheat samples have shown up to 20% damage.

The adult of this maggot is a very small midge or fly, identified tentatively as the "wheat midge." As far as is known this midge has not been present previously in Manitoba in sufficient numbers to cause notable damage, Prof. Robinson states.

So far, all the samples affected have been the new rust-resistant Selkirk wheat but it is expected that infestation will not be limited to this one variety. There is no reason, the scientists say, why Selkirk should be affected and no other.

The entomology department has nothing to offer in the way of control measures. Insecticide won't reach the midge, since it hides underneath the bract, the leaf that surrounds the kernel. The midge cannot be seen until the bract is peeled back and the shrivelled kernel revealed.

Prof. Robinson believes that the worst of the attack is over but it is intended to make an exhaustive check of the situation to see how much damage has occurred, and, more important, to try and find a cure in the event that infestation is continued into future years.

Aphids' Air Blitz

Prof. Robinson, in another report, says that the air blitz on aphids attacking barley in Western Canada has been an unqualified success. He considers that aircraft has a definite place in the killing of insects.

Aircraft were used on a small scale to spray malathion over infected fields. Though the planes used were not equipped to deliver great volumes of spray, the pilots overcame this problem by flying very low and creating a great turbulence in the air which swirled the insecticide about to make a good contact.

Prof. Robinson added that the costs of air spraying compare favorably with those of ground spraying and, in fact, effect a saving because there is no damage from tractor or sprayer wheels passing over the crop.

Following a personal inspection of treated fields, Prof. Robinson expressed the opinion that malathion should be used in water, not in oil. As a test, one section of a field was sprayed with malathion in oil, the remainder with one pint of the insecticide to one gallon of water per acre. Although both kills were good, the oil spray caused more foliage damage, he reported.

More Potash Needed

As part of an inquiry into the production of grass for drying, two staff members of the Hannah Dairy Research Institute, Ayr, Scotland, are making fertilizer studies to determine how long it is possible to maintain high yields. As they embark on a second 3-year study period, very heavy dressings of nitrogen are being applied, with and without phosphates and potash.

Yields, the research men report, have been maintained, so far, on plots where nitrogen has been supplemented by sufficient potash. In the absence of potash yields fall off, and the fall is steepest where nitrogen dressings have been heaviest.

Similar research work in Holland and Sweden has brought the same results, observers comment.

Israel Potash

The salt and carnallite pans at the potash works at Sodom, near the southern end of the Dead Sea, have now been expanded. Existing facilities are being improved and new machinery installed. It is expected that the additional pans will supply raw material sufficient for the extraction of 180,000 tons potash annually.

East German Exports

An attempt is being made to export a quantity of ammonium sulfate from Eastern Germany to Spain. The Spanish government has approved the deal but payment and shipment problems are holding up the implementation of the contract. The West German government, which has a trade agreement with Spain, has been brought into the matter through a proposal that the Spanish limited-convertibility mark account should be used to make payment.

The excuse offered by the Spaniards is that Western Germany is unable to supply ammonium sulfate.

DUSTER KILLED

LEPANTO, ARK.—Roy E. Craven of Lepanto was killed recently when the crop-dusting plane he was piloting crashed here.

Deliveries of Potash Salts, June, 1954, Thru May, 195

In Tons of 2,000 lbs. K_2O

See Story on Page 1

Point of delivery:	Muriate—60% & 50%	Manure salts	Sulphates	Total
Alabama	62,764.12	24.00	282.39	63,070.51
Arizona	(10.00)	.....	742.00	732.00
Arkansas	42,308.18	59.28	177.21	42,544.67
California	7,957.00	.....	6,473.00	14,430.00
Colorado	666.08	.....	74.55	740.63
Connecticut	3,763.33	.....	1,143.40	4,906.73
Delaware	10,313.21	.....	87.06	10,400.27
District of Columbia	319.51	.....	67.70	387.21
Florida	81,676.94	41.00	29,960.66	111,678.60
Georgia	118,901.29	21.00	9,332.86	128,255.15
Idaho	579.58	.....	.....	579.58
Illinois	197,610.37	.....	975.65	198,586.02
Indiana	146,417.37	.....	3,410.71	149,828.08
Iowa	49,979.90	12.40	151.14	50,143.44
Kansas	2,400.05	415.61	.....	2,815.66
Kentucky	27,834.47	.....	13,703.78	41,538.25
Louisiana	26,476.50	.....	196.87	26,673.37
Maine	11,640.35	.....	386.12	12,026.47
Maryland	72,045.72	.....	5,030.72	77,076.44
Massachusetts	12,576.61	.....	1,131.95	13,708.56
Michigan	51,217.41	.....	526.08	51,743.49
Minnesota	46,051.49	.....	205.89	46,257.38
Mississippi	29,180.53	.....	127.80	29,308.33
Missouri	44,437.68	278.31	306.73	45,022.72
Montana	63.00	.....	.....	63.00
Nebraska	1,846.68	.....	.....	1,846.68
New Hampshire	18.05	.....	9.70	27.75
New Jersey	40,975.80	36.87	1,630.54	42,643.21
New Mexico	76.14	1.00	8.00	85.14
New York	32,829.49	.....	1,247.20	34,076.69
North Carolina	78,421.22	93.96	19,847.22	98,367.40
North Dakota	3,064.95	10.54	9.02	3,084.51
Ohio	184,536.09	.....	5,076.32	189,611.41
Oklahoma	3,763.88	.....	80.60	3,844.48
Oregon	3,216.22	.....	197.18	3,413.40
Pennsylvania	36,087.42	.....	1,445.39	37,532.81
Rhode Island	1,975.66	.....	66.69	2,042.35
South Carolina	60,154.74	193.38	4,179.04	64,527.16
South Dakota	128.30	.....	.....	128.30
Tennessee	64,718.66	.....	6,737.70	71,456.36
Texas	36,854.15	.....	352.70	37,206.85
Utah	138.00	.....	.....	138.00
Vermont	516.05	.....	.....	516.05
Virginia	101,323.48	10.00	15,427.42	116,760.90
Washington	6,053.00	.....	300.35	6,353.35
West Virginia	1,265.45	.....	.....	1,265.45
Wisconsin	58,767.35	49.43	1,142.34	59,959.12
Total U. S.	1,763,900.47	1,251.78	132,251.68	1,897,403.93
(Imports)	(86,895.69)	.....	(28,797.15)	(115,692.84)
Canada	79,670.36	.....	7,210.33	86,880.69
(Imports)	(38,089.90)	.....	(2,128.60)	(40,218.50)
Cuba	2,392.09	.....	2,872.29	5,264.38
(Imports)	(.....)	.....	(1,925.00)	(1,925.00)
Hawaii	16,991.43	.....	2,226.00	19,217.43
Puerto Rico	19,814.57	.....	2,513.25	22,327.82
(Imports)	(6,078.66)	.....	(909.46)	(6,988.12)
Total institute territories	1,882,768.92	1,251.78	147,073.55	2,031,094.25
Exports	30,049.80	.....	534.20	30,584.00
GRAND TOTAL	1,912,818.72	1,251.78	147,607.75	2,061,678.25
(Imports)	(131,064.25)	.....	(33,760.21)	(164,824.46)

NOTE: Figures in parentheses represent imports and are included in the totals immediately above them.

A.A.C. Names Manager, Sales Supervisor for Humboldt Branch

NEW YORK—The American Agricultural Chemical Co. has announced the appointment of George S. Linton as manager of its new Humboldt, Iowa, branch and the appointment of Ronald R. Johnson as sales supervisor at Humboldt.

Mr. Linton has been associated with the A.A.C. Co. for 18 years, having been assistant manager of the company's Buffalo office at the time of his new appointment. He attended Alfred University, following which he spent several years in the banking business, coming with the A.A.C. Co. in a sales capacity in 1937.

Mr. Johnson is a graduate of the University of Missouri, where he majored in soils and agronomy. He joined the firm in 1950 and has been associated with the company's western sales and field service organization.

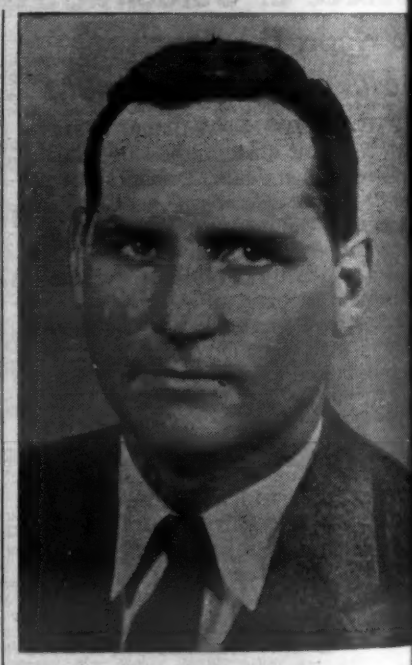
Carolinas-Virginia Pesticide Formulators Plan Annual Meeting

RALEIGH—The Carolinas-Virginia Pesticide Formulators Assn. will hold its annual meeting at the Holly Inn, Pinehurst, N.C. Oct. 3-5.

The program has not been arranged, but sessions will be scheduled to leave time available for recreation during the afternoons, according to J. B. Maddrey, Norfolk, secretary-treasurer. Representatives, and their wives, of companies with the association's common interest will be welcome, Mr. Maddrey said.

EDITOR MOVES

NEWARK, DEL.—George A. Van Horn has left his post as agricultural editor at the University of Delaware to join the experiment station editorial staff at Penn State University.



Charles E. Hendry

REPRESENTATIVE — Charles E. Hendry has been appointed sales representative for the Kentucky territory by the Fulton Bag & Cotton Mills' Atlanta office. A graduate of Alabama Polytechnic Institute, Mr. Hendry has held supervisory and executive positions with two textile companies. He joined Fulton in 193[illegible] and has been in charge of Fulton fabric sales in the Atlanta territory.

Firm to Convert Canning Factory to Fertilizer Plant

CANON CITY, COL. — National Mines & Minerals, Inc., Denver, has announced that this fall it will convert a canning factory here into a fertilizer plant. Raymond Haynes, company spokesman, said that the firm will take possession of the building, owned by the Denver P[illegible] Co., in September.

MEETING MEMOS

Aug. 8-10 — Summer Meeting of North Central Division, American Phytopathological Society, Wooster, Ohio; further information from H. C. Young, Dept. of Botany & Plant Pathology, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 9-11—Ohio Pesticide Institute Meeting and Field Tour, Wooster, Ohio; Dr. J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Secretary.

Aug. 10—Kentucky Fertilizer Conference; Guignol Theatre, University of Kentucky, Lexington.

Aug. 15—National Joint Committee on Fertilizer Application, Cooperative Meeting with the American Society of Agronomy, University of California, Davis Campus.

Aug. 15-19 — American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Aug. 15-20—Farm & Home Mechanization Pageant, Michigan State College, East Lansing, Mich.

Sept. 7-8—Corn Belt Anhydrous Ammonia Conference, University of Illinois, Champaign-Urbana Campus, Advance Registrations Room 216, Davenport Hall, Urbana, Ill.

Sept. 7-9 — National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9 — Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

Sept. 11-16—American Chemical Society, National Meeting, University of Minnesota, Minneapolis.

Sept. 28-30—New England Fertilizer Conference, Poland Spring House, Poland Spring, Maine.

Oct. 3-5—Carolinas - Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C., J. B. Maddrey, 3111 Broad Creek Road, Norfolk 12, Va., Secretary-Treasurer.

Oct. 11—Western Agricultural Chemicals Assn., Annual Meeting, Hotel Claremont, Berkeley, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., Executive Secretary.

Oct. 17-18 — Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Oct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers, University, New Brunswick, N.J., secretary.

Nov. 4—Fertilizer Section, South Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C., Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

Nov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 17-18—Nitrogen Solution Field Day, National Nitrogen Solution Assn., State Armory, Springfield, Ill.; Roy F. Broyhill, Dakota City, Neb., meeting chairman.

Nov. 29-Dec. 2 — Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30 — American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

1956

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York, W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 15-17—New Mexico Grain & Feed Dealers Assn., Annual Convention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers, H. B. Hening, Albuquerque, Secretary.

Feb. 15-17—California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

Feb. 15-17—Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

Jan. 26-29 — Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

Vulcan Containers Formed by Consolidation

BELLWOOD, ILL.—A new organization, Vulcan Containers, Inc., has been formed by consolidating Vulcan Stamping and Manufacturing Co. and Vulcan Tin Can Co., it was announced recently by Vern I. McCarthy, president. Vulcan is a pioneer in the development and manufacture of steel shipping cans, drums and pails, tin cans and container specialties.

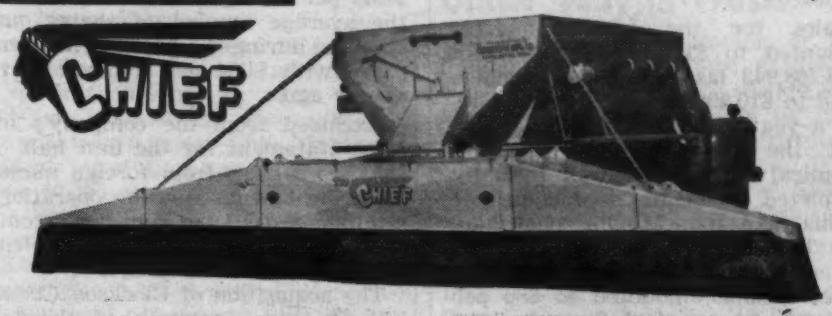
The parent stamping company was started in 1916, making small tin cans and metal specialties, such as ash and pin trays, casserole frames and wire spools. In the early 1920's the firm went into the manufacture of steel shipping containers, then an infant industry. The tin can department, expanded by demands for its products by printing ink manufacturers, spare parts packagers and others, was incorporated as Vulcan Tin Can Co. in 1945 and moved to another location.

After several moves, both companies were brought under one roof in enlarged facilities at Bellwood, Ill., a Chicago suburb, and will operate as a single organization.

For LAND'S Sake-- FERTILIZE!

AND WHEN YOU DO — Use the

Henderson CHIEF



One sure way to sell more and more fertilizer and have more and more satisfied customers is to use the HENDERSON CHIEF, the spreader that has all the features you have always wanted and the spreader that has consistently outperformed all others.

LOOK AT THESE FEATURES:

- Wide 24" floor eliminates bridging with resultant spotty spreading.
- Steep 45° side slopes for free flow of any material.
- Calibrated feed gate for accurate spreading control.
- Heavy duty double enveloping gear-sets in conveyor drive.
- Dependable distributor assembly with heat-treated gears. Sealed ball bearings used throughout.
- All gear cases of high strength corrosion resistant aluminum alloy.
- Heavy duty cold riveted conveyor chain.
- Advanced fertilizer hood attachment for full 23" coverage each pass. Rubber curtains prevent blowing.
- A size to fit your truck, 4¼ to 8 yards.
- Powerful 5½" over-center, toggle type clutch eliminates starting and stopping to engage and disengage PTO.
- Two speed transmission for correct conveyor speed selection.

These are but a few of the features that make the HENDERSON CHIEF tops of the field — in the field. A trial will convince you. For additional information or a demonstration simply address a card or letter to us.

FOR MORE PROFIT

Convert to BULK DELIVERY NOW!

One-Man Operation

Henderson CHIEF

18 Ft. to 36 Ft. BULK TRANSPORTS

Self-Unloading — Hydra-Mech Powered

Deliver fertilizer faster, at lower cost with a Henderson Bulk Transport. Every feature is especially designed and efficiently engineered for easy, one-man operation — from the type and positioning of control to the self-unloading feature. Equipped with 14-ft. 156° swivel conveyor with advanced Hydra-Mech action which raises, lowers or folds conveyor vertically for transport. The Henderson name assures you a better built unit, stronger, more trouble-free with less maintenance.

PROFIT-PAYING, MONEY-SAVING FEATURES

1. Eliminates costly bags, handling, and warehousing.
2. Speeds deliveries for greater sales volume.
3. Permits several trips per day with flexible, mobile self-unloading delivery service any where, any time. Saves men, work, time.
4. Eliminates demurrage and scheduling rail cars. Schedule your delivery to best suit the need and your convenience.
5. Self unload direct into Chief Spreaders to keep them moving in the field. Avoid delays.
6. Spotting Transport at job frees truck tractor to pick up another Transport load. Like having one truck with several bodies.

All steel, welded construction, streamlined corrosion-resisting hopper, with rounded front, tarpaulin hooks and catwalk. Hydraulically operated rear feedgate opening controls material flow. Entire door can swing open to handle other materials. Hydraulically operated adjustable false floor reduces weight on conveyor belt. 15 H.P. Wisconsin Motor and extra-heavy-duty chain (with oiler) drive conveyor belt.

If you handle bulk material, it will pay you to investigate.

Write for Circular and Prices.

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DEPT. 1, CEDAR RAPIDS, IOWA

OLIN MATHIESON FIRST HALF SALES, EARNINGS INCREASE

NEW YORK — Sales of Olin Mathieson Chemical Corp. in the U.S. and Canada increased approximately 12% in the three months ended June 30, 1955, compared with the corresponding period last year, while net income showed a gain of about 11%, the company's second-quarter report disclosed.

Sales for the second quarter amounted to $142,103,684, up from $126,468,943 last year, and earnings came to $10,998,502, up from $9,938,631 a year ago. These totals all reflect the acquisition of Blockson Chemical Co., which was formally completed during the second quarter of this year, John M. Olin, chairman, and Thomas S. Nichols, president, told shareholders in the report.

Net income amounted to 88¢ per share of common stock figured on the average number of shares outstanding during the quarter. This compared with 82¢ a share in the like 1954 period, also based on the average number of shares outstanding.

For the first six months of 1955, Olin Mathieson's sales in the U.S. and Canada rose to $270,800,964 from $244,167,642 in the first half of 1954, reflecting the Blockson acquisition in both periods.

Earnings in the first half of this year amounted to $19,941,739, or $1.60 per share of common stock on the average number of shares outstanding during the period. This compared with $1.54 per common share a year ago.

Excluded from the company's income statement for the first half of 1955 were sales from foreign manufacturing and distributing operations totalling $20,661,184, and net income of $1,650,364, which was equivalent to 14¢ per common share.

The acquisition of Blockson Chemical Co. was accomplished through the issuance of 1,127,943 additional shares of Olin Mathieson common stock, the report noted. It also stated that negotiations were completed during the quarter for the acquisition of Brown Paper Mill Company, Inc., of West Monroe, La., and its four associated companies, for 725,000 shares of Olin Mathieson common stock and $50 million in cash.

Firm Opens Service Plant in Kansas City

KANSAS CITY—A branch of the Missouri Solvents & Chemicals Co. of St. Louis has occupied an office, warehouse and laboratory here. It is the 16th service plant in the Midwest and South for the parent firm, Solvents & Chemicals Co., Chicago.

E. J. Saake heads the Kansas City operation. The firm handles distribution of a variety of chemical products, including weed killers. Another unit will be opened soon in the Dallas-Fort Worth area.

New England Crops Suffer From Heat Wave

BOSTON — Massachusetts, reelin under a heat wave, which brought days in July of over 90 degrees fo an all-time record and continued with 98 degrees Aug. 1, has a crit cal crop situation on its hands. Ma areas in the state are blistered.

Farmers on Cape Cod, in Esse County, Bristol County, Central Mi dlesex County and Hampden Cou ty have been badly hurt by the hea which is drying up their fields.

Carlton Cartwright, Essex Count extension agent, said a shortage water in West Peabody prevente farmers there from irrigating "unles they had their own sources of wate supply, like ponds." He said field without irrigation are "suffering re gardless of crop, whether it is vege tables or hay."

Fruit crops have not suffered yet, "but from now on we need moisture for apples or peaches," he said. The hot weather has been favorable for insect development, too, he pointed out, and that has posed another problem for farmers.

"The situation is critical," Franci G. Mentzer, Jr., Middlesex Count extension agent, said. We have ha only spotty rain. The market garde ers have irrigation, but with extreme ly low prices on vegetables, the irri gation costs are hardly justified. The are sort of between the devil and th deep blue sea."

Corn and blueberry crops hav been hardest hit in western Massa chusetts, James N. Putnam, Hamp den County agent, reported. Corn said to be in "terrible shape." I Blandford, a big blueberry are farmers say the drouth could rui this year's crop.

"The high humidity and lack rain are cooking things up in th fields and the woods," Raymond Kenney, director of forestry in th Massachusetts Department of Natu al Resources said. "If we get ligh windy weather before rain, we ca have a difficult situation."

Reports from other New Englan states:

New Hampshire: Enough rain t postpone serious crop damage. Som spots are dry, but statewide the situ ation is not too serious.

Maine: Corn, potatoes, beans, blue berries, apples and other fruit crop are sure to show some effects fro the dry weather, according to Fre J. Nutter, agricultural commissione Most farmers are barn feeding be cause of dry pastures. The feed ha gone; also, quite a few farmers ar hauling water because of failures wells.

Vermont: "Another week of thi would make us scared," said Willia E. Brader, assistant in charge of fo est fire control. "The second cro of grass for pasture is suffering se riously," Elmer E. Towne, agricul ture commissioner, reported. "Corn feeling the effects of the drouth; an a substantial number of farmers ar feeding their dairy herds hay becaus the second crop of grass for pastur was not good for feeding."

Four New Members Named to V-C Board

RICHMOND, VA. — Four ne members have been elected to th board of directors of Virginia-Car lina Chemical Corp., according Joseph A. Howell, president of th firm.

The new directors are Georg Champion, executive vice presider of the Chase Manhattan Bank; Ed ward Bartsch, former president Rayonier Corp.; Rupert T. Zicki, vi president of Bartram Brothers Corp all of New York, and Horace A. Gra Jr., of Richmond, Va., chairman the board of Virginia Folding Bo Co.

THEY'RE THE NUTS

. . . that go into candy bars, crackers, peanut butter, and are used as fodder and as a source of medicinal oils. With over a billion pounds produced last year, the peanut is big business. The use of modern commercial fertilizers has helped make this big business even bigger.

Potash, a major component of these fertilizers, enriches the soil, improves crop quality, builds resistance to disease and increases total product yield. USP's high-grade muriate of potash has the highest K_2O content and is free-flowing and non-caking—important advantages in the production of fertilizers that help make the peanut crop a valuable addition to the American economy.

SUNSHINE STATE POTASH — PRODUCT OF NEW MEXICO U.S.A.

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COTTON ACREAGES

(Continued from page 1)

w, since the new staple grade base uld have meant a reduction in the tual parity price for cotton.

On the basis of calculations to et acreage allotments for the crop ear after the maximum set-aside f three million bales is taken into onsideration, USDA officials say hat the marketing quotas will be et at the minimum level of 10 illion bales but that the actual lanted acreage will not fall much elow 18 million acres.

The cotton acreage control equaon is that between per acre yields the last four years and the minium production indicated as needed nder the law. In short, statistically tton is at the bottom of the barrel far as production requirements are ncerned—ten million bales.

To fit that maximum production reirement into acreage allotments, SDA must take the average acrege yield for the years 1950-54 and vide that into ten million bales on per pound basis to reach total acrege allotments for all cotton farms.

A USDA official tells Croplife that e increased yields per acre within e new base period will probably relt in a national cotton acreage altment of approximately 18 million anted acres.

But here are some arresting figures hich may cause the plant food and sticide industries to take a good ok at their sales records. USDA ficials tell Croplife that approxiately only 59% of the cotton crop using plant food and pesticides. hile that level has been increasing recent years, it still indicates a g gap between sales of these prodts and the actual need as an index profitable production.

The cotton bloc in Congress atmpted this year to push through easures which would have boosted tton exports for 1956 at world ices and might have reduced the t in acreage allotments for that op. Their purpose was solely to halt ts in acreage allotments. Now it is en that the acreage allotments on e basis of the maximum set-aside cotton under the farm law as ended last year will maintain cotn acreage at about the same level planted acreage this year, at 18 llion approximate acres.

But the fact that only 59% of ll acreage is using profit-producg plant foods and pesticides is a atter of great significance to ose industries.

Statistical data backing up this ws from USDA is confusing and s accumulated from the Bureau Census and other sources. For exple, USDA points out that the % use figure for plant foods and sticides reflects all cotton farms. t it is noted at USDA that farms clude share cropping and tenant rm operations which may be comed all within a potential 600-acre it.

The point USDA officials raise is hat figures again may hide the hole truth. As mechanization of otton farms advances there will e fewer share croppers and tenut farms but there will be the me amount of land under cultiation, but under one roof.

The outlook is that as tenant farmg in the cotton belt and share cropg is reduced, there is likely to be greater attention upon the farm prietor to seek for maximum effincy of production.

Therein is the expanding market plant foods and pesticides in the ton belt. This is true despite the t that the U.S. cotton economy is walking up hill under the obvious burden of extremely heavy surpluses and high price supports. These in turn are encouraging production of cotton in overseas areas which are now selling in world markets as much as 3¢ per pound under U.S. cotton from the CCC stockpile.

USDA officials sense in the opportunities of the U.S. plant food and pesticide industries a real challenge to add to cotton farming income in these years of tight acreage controls. These officials say that much cotton diverted acreage will, as in the case of the Delta area, go into substitute crops but such crops are not an important factor in demand for plant foods. It seems far better that the plant food and pesticide industry lay hold of the 59% of total sales and boost that figure to the 100% level.

Mediterranean Sage Hurts Range Lands; Controls Outlined

CORVALLIS, ORE.—Mediterranean sage, a range-robbing plant that cattle won't eat, has taken over an estimated 200,000 acres in Lake County, Ore., a patch has started in Union County, Ore., and it has infested about 700 acres near Walla Walla.

C. E. Poulton, Oregon State College range management researcher, says the plant will grow on almost all Eastern Oregon-soils and moves in quickly on rundown range if it finds no competition from thrifty perennial grasses. Lake County's present infestation has mushroomed from 40,000 acres since 1950. It was first recorded in the U.S. about 60 years ago in northern California.

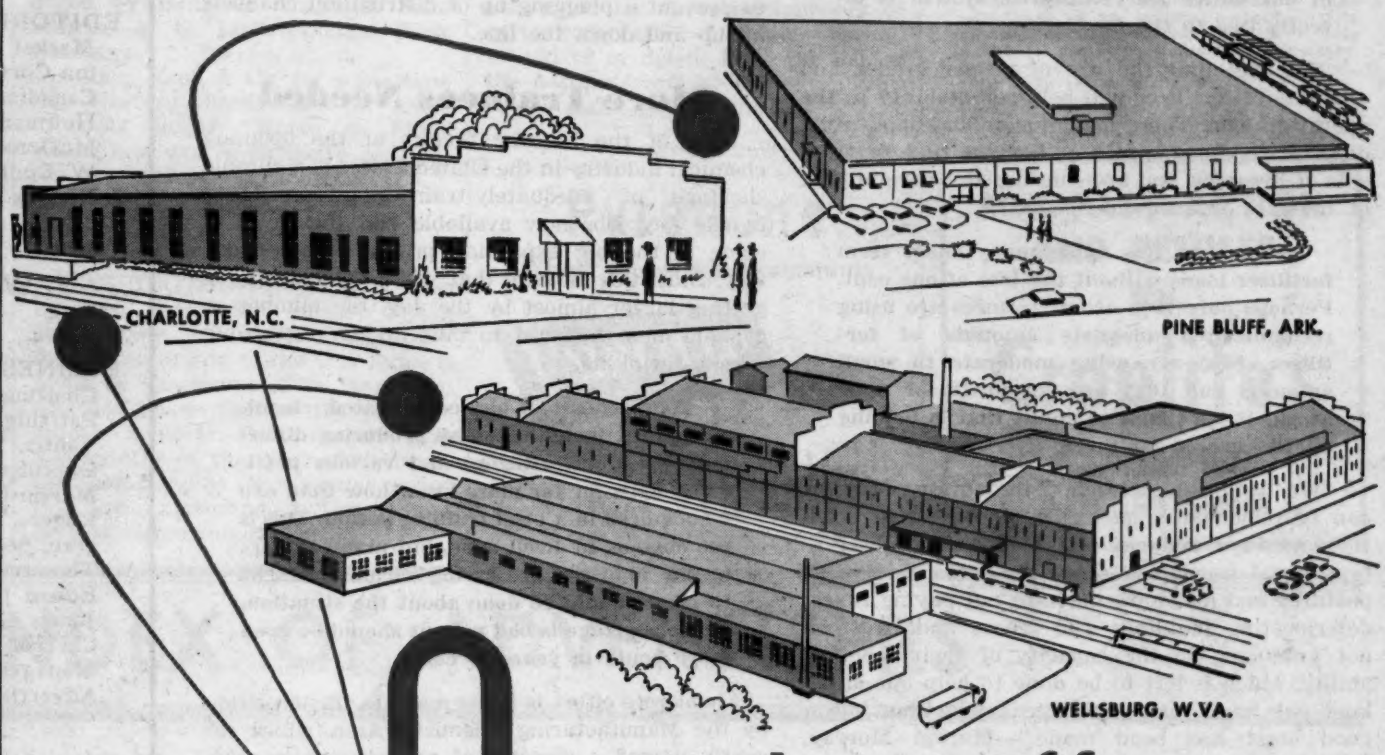
Known controls: 2,4-D spraying or grubbing, combined with good range management. The weed kills easily, but it takes over again unless held out by well-managed perennial range grasses.

Only one pound per acre of butyl ester 2,4-D killed all plants in test plots near Lakeview. Spray should be applied when Mediterranean sage is in the early stage of flower stalk formation, usually in late May or June.

Spruce Budworm Spraying Project Under Way in West

WASHINGTON—Spraying of 2¼ million acres of western spruce-fir forests for control of the spruce budworm was under way late in July, the U.S. Department of Agriculture reported. It was the largest DDT aerial spraying project ever undertaken by the U.S. Forest Service.

The project covered timberlands valued at $750 million in Oregon, Idaho, Montana and New Mexico. Cost of spraying was to average about $1 an acre.



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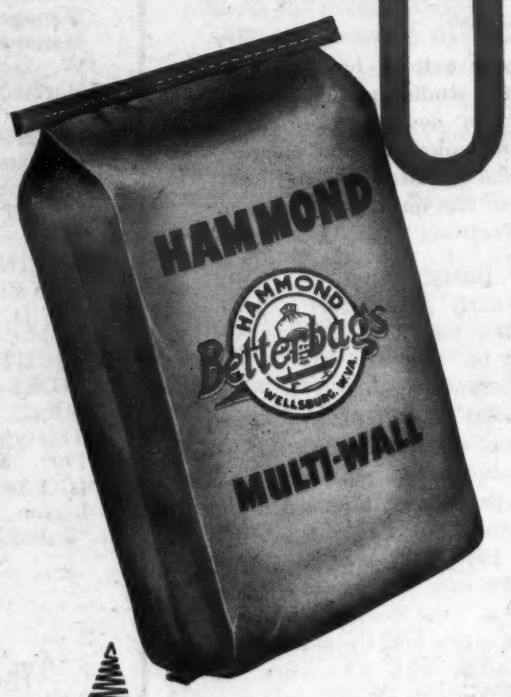

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Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

Fertilizer and Bankers

"The lack of credit is certainly not the real bottleneck to agricultural progress. . . . The country banks have recognized that they have an excellent opportunity to accept the responsibility of helping the farmer and his family because of their close friendship and mutual understanding. It is very difficult to separate the problems of the farmer from the problems of business.

"Economic decay of either gradually but surely spreads to the other. Economic strength of each strengthens and helps to stabilize the entire community. The welfare of our entire free enterprise system is directly tied to the land.

"We feel that the use of proper grades and amounts of fertilizer will help add stability to the operating loan. These loans for annual application of plant food are repaid at harvest time or from sale of livestock and are considered a normal part of the farmers' seasonal needs.

"Our bank has made many short term fertilizer loans without the loss of one cent. Perhaps only 10% of our farmers are using recommended adequate amounts of fertilizer, 80% are using moderate to small amounts and 10% use very little or none at all. It isn't lack of credit that is holding up the use of fertilizer. . . .

"We have only scratched the surface of what can be done with our farms. As we drive down the highways and country roads, close observation is not necessary to see the scars of erosion; pastures and meadows that are not paying taxes; deteriorating buildings and fences and livestock not producing to the capacity of their inherent ability. Much is left to be done to help our ailing land get back into profitable production, but a good start has been made."—Marion Murray, Chillicothe State Bank, Chillicothe, Mo., in recent talk, "Financing Fertilizer Programs."

Tell Them and Sell Them

With the current emphasis on selling its products, the sales manager of a prominent producer of fertilizers puts out some good pointers in a recent letter to his men-on-the-road.

Some of the information he puts forth has been pointed out before, but it is good to keep constantly in mind, the fact that fertilizer is not yet a demand item . . . that we have not yet reached the point where much of the potential volume may be achieved merely by "having it in stock" and just waiting for farmers to come in and buy all the fertilizer and/or pesticides they can use.

"Something to think about," this sales manager says to his men, "is that the drop in prices of farm products may cause some farmers to consider cutting down on fertilizer application to reduce expenses. Analysis of costs and returns clearly shows this is not a profitable procedure. Don't slacken your efforts to show farmers the value of proper fertilization practices—even in periods of falling prices!

"Fertilization should be based on soil needs, not solely on the amount of money in the farmer's pocketbook. If a farmer can't afford a complete program, adequate amounts of fertilizer on few acres are more profitable than minimum amounts over larger areas.

"Don't forget, too, that good soil fertility helps crops beat the drouth. Drouth damage was reduced considerably on those Kansas wheat fields that were fertilized for the 1954 crop. Yields from fertilized fields averaged 39 bushels per acre compared to 25 bushels from untreated fields. This increase in yield gave farmers a return of $2.50 on every dollar invested in soil improvement.

"The theory is that fertilizer helps beat drouth by enabling plants to use more efficiently what water they do get. To grow one bushel of corn on low fertility soil requires about 4 times as much water as a bushel of corn grown on high fertility soil. Furthermore, researchers now believe that many of the symptoms previously thought to be fertilizer burn in dry weather are actually signs of plant hunger."

In view of the foregoing, the line between "selling" and "education" is sometimes difficult to define, but it is obvious that it takes a lot of effort . . . whether it is called "teaching" or "selling" . . . to reach the kind of volume necessary to prevent a plugging up of distribution channels all up and down the line.

More Trainees Needed

One of the limiting factors of the booming chemical industry in the United States is a chronic shortage of adequately-trained personnel to handle key jobs now available and those yet to come in the big expansion program now under way. Statistics indicate that while the industry is getting larger almost by the day, the number of capable men prepared to take highly responsible jobs is shrinking.

Management of big, complicated, chemical plants, including those producing different types of fertilizers and various pesticides, calls for far more know-how than can be acquired in a brief training period. This is too obvious to dwell upon, but many leaders in the industry are giving serious thought to what should be done about the situation. If the shortage is bad now, it should be even more acute in years to come.

A concrete effort is being made in this direction by the Manufacturing Chemists' Assn. which recently named a director of education whose job is practically limitless in scope. It seems to us that this move is a logical one.

The new director, Dr. William E. Chace, known to the fertilizer trade through his several years' association with the National Fertilizer Assn., has the job of carrying out the objectives of the venture, outlined as follows:

"To improve and extend teaching of chemistry and related studies, principally in secondary schools; to develop a greater understanding of the importance of chemicals and the chemical industry in American life; and to increase the number of people qualified to work effectively in the industry."

Operating on the thought that a scientific career should begin early, the effort is being launched on the grade-school level. Teachers at this level will have to be "sold" on the value of such training and with their help, many promising youngsters may be guided into scientific studies.

Probably it is not entirely appropriate to compare the Soviet educational philosophy with our own, because of the many differing factors that enter into the picture, but it is at least interesting to observe this fact: that as a part of the over-all Communist program for "shaping a materialistic world outlook," the Soviets require all 13-year-old children in cities and towns to take a 33-week chemistry course with homework, laboratory study and independent experiments being among the essentials.

In the U.S., statistics indicate that only 1 in 13 U.S. high school students takes chemistry and those who do, seldom begin their studies before the age of 15 or 16.

Thus, any effort to step up the number of young people entering the scientific field, and to lower the age of their catching the gleam of careers in chemistry, should be helpful to the entire trade.

CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at $5 for one year, $9 for two years ($8 a year outside the U.S. and possessions). Single copy price, 25¢.

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FEEDSTUFFS
MILLING PRODUCTION

5 Anhydrous istributors Attend hillips Meeting

MINNEAPOLIS — Sixty-five Phil-s Chemical Co. anhydrous am-onia distributors from the Upper idwest attended a meeting at the eamington Hotel here July 26.

Dr. John MacGregor, professor of ils chemistry at the University of innesota, discussed his experiences d experiments with fall application nitrogen on Minnesota soils. His port indicated that fall application successful.

Kasper Peter, Phillips fertilizer presentative from Omaha, used a ries of charts to point up total fer-lizer consumption in Midwest states. discussing the history of the nitro-en business he commented that Mid-est states with the heaviest nitro-en consumption also have the larg-st per acre corn yields.

Wayne Peck, Bartlesville, Okla., Phillips sales manager in charge of ammonia sales, talked about the high investment and operating costs in the ammonia distributing business. He stressed that "ammonia distributors must get a fair price for their product in order to realize a return on their investment."

Dr. William Erwin, Phillips agron-mist from Bartlesville, discussed echniques in fall sales of ammonia.

Herb Gloege, Phillips Minneapolis ertilizer representative, was master of ceremonies, and he conducted an open discussion with the distributors on their field experiences with ammonia. The group had an evening social hour and dinner in the Leamington Ballroom.

FERTILIZER
BRADLEY & BAKER

MEETING MEMOS
See Page 19

Atkins, Kroll & Co. Opens New York Office

SAN FRANCISCO—Atkins, Kroll & Co., 50-year-old San Francisco firm with branches at Los Angeles, Guam, Manila and Cebu, has announced the opening of a New York office in the Five Hundred Fifth Avenue Bldg. Manager is Edward ("Ted") Tolin, formerly in charge of the firm's Los Angeles office.

From New York Mr. Tolin will market the agricultural chemicals, fertilizers and pesticides now produced by Badische Analin & Soda Fabrik, A. G. Ludwigshafen, West Germany.

Atkins, Kroll & Co. for some time the Western distributors for these products under "Horse & Lion" brand, now will be exclusive distributors for them throughout the U.S.

Sales Up

WASHINGTON—May, 1955, sales by feed, farm and garden supply stores rose 3% above May, 1954, figures, according to the U.S. Department of Commerce. The May total was 4% below that of the previous month, however. Sales for the first five months of this year continue at the same level as for a similar period last year, according to Department of Commerce tabulations.

Edward C. Burdick Retires from Dow

MIDLAND, MICH. — Edward C. Burdick, director of the Dow Chemical Co.'s Patent Department for 18 years and widely known in his field as a specialist in chemical patents, has retired after nearly 40 years' service with the company. William M. Yates, who has been assistant director since last February, has been named as his successor.

Mr. Burdick will continue to serve the company, however, in his new capacity as a consultant, it was announced by Calvin A. Campbell, vice president and general counsel.

SEED LAW REWRITTEN

GENEVA, N.Y. — The New York State seed law has been completely rewritten and brought up to date. Under the new law treated seed must be labeled with the kind or purpose of the treatment. The seed must also carry adequate warning if a harmful material is used. The list of noxious weeds has been revised. Provision is also made for the commissioners of agriculture, after a public hearing, to add to or delete from the list as the best interests of the agriculture of the state may dictate.

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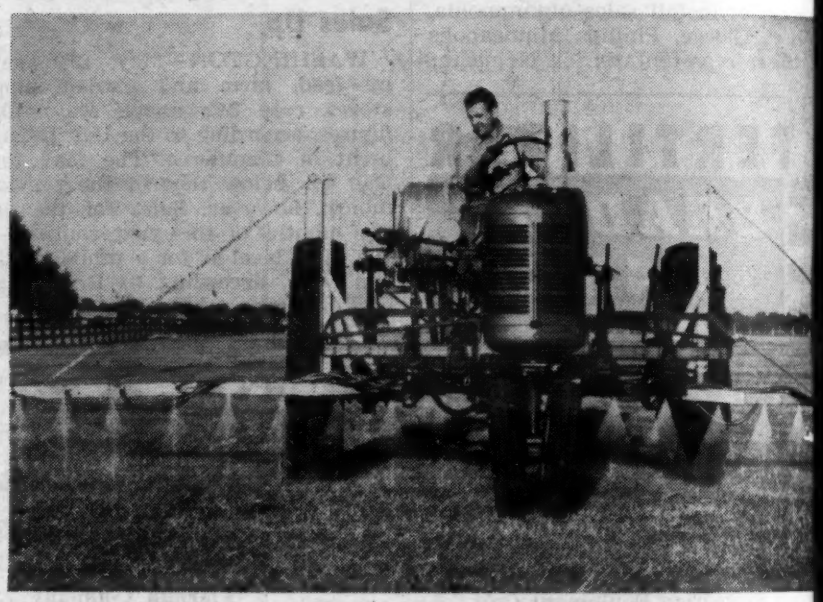
Sell ARCADIAN® three ways for big, new, fall fertilizer profits

Fatten your fall fertilizer sales this year with modern, versatile ARCADIAN products. They make fall application faster, easier and more profitable for farmers than ever before, and enable you to build a busy, profitable fall plow-down and top-dressing season. Yield-boosting, soil-building ARCADIAN products are backed by powerful advertising that helps speed your sales. Make the best of these three, big, new fall markets by selling ARCADIAN now.

1 **The fastest-growing mixed fertilizer** today is concentrated 1-1-1 ratio goods like ARCADIAN 12-12-12 Granular Fertilizer. Ideal for all crops, ARCADIAN 12-12-12 renews soil fertility continually drained by modern, high-yield crops. Every firm, non-dusting granule of ARCADIAN 12-12-12 supplies balanced nitrogen, phosphorus and potash, plus calcium, sulphur and important minor elements. Non-clogging, fast-spreading ARCADIAN 12-12-12 is just the thing for "one-shot" complete feeding of crops this fall.

2 **Labor-saving ARCADIAN Nitrogen Fertilizer Solutions** have taken most of the work out of nitrogen top-dressing and fall plow-down as well as side-dressing. Your customers can apply ARCADIAN Nitrogen Solutions as fast as 100 to 200 acres a day, with simple, tank and boom or injection equipment you sell or rent. Many suppliers also build a profitable custom application business on ARCADIAN URAN*, NITRANA®, and FERAN* Nitrogen Fertilizer Solutions. No bags to lift, no high-pressure fumes, just quick-acting, long-lasting, economical nitrogen that "flows" on!



3 **The most concentrated dry nitrogen available,** ARCADIAN UREA 45, is a real labor saver and profit builder. The 45% nitrogen pellets are free-flowing in any equipment, and concentrated enough for effective airplane application, as well as for ground spreading or use in irrigation water. ARCADIAN UREA 45 provides non-leaching, long-lasting nitrogen for fall crops and fall plow-down. Every ton of UREA 45 has top plant food value, plus big profits. For acid soils, ARCADIAN American Nitrate of Soda and A-N-L® Nitrogen Fertilizer are desirable, non-acid-forming, dry nitrogen fertilizers.

Sell Arcadian® to stretch your profit season

New ARCADIAN Fertilizers and efficient new application equipment help you expand traditional fertilizer markets into a bigger new fall sales season. Get full details on the profitable ARCADIAN line.

- ☐ **UREA 45 Fertilizer** *45% Nitrogen Pellets*
- ☐ **12-12-12 Fertilizer** *Granular*
- ☐ **American Nitrate of Soda** *Improved Granular*
- ☐ **A-N-L® Nitrogen Fertilizer** *Pelleted*

NITROGEN SOLUTIONS

- ☐ *Non-pressure* **URAN* and FERAN***
- ☐ *Low-pressure* **NITRANA®**

*Trade-Mark

NITROGEN DIVISION Allied Chemical & Dye Corporation
40 Rector St., New York 6, N. Y.

NITROGEN DIVISION ALLIED CHEMICAL

☐ Please provide me full information on the products I have checked at the left.
☐ Please have an ARCADIAN salesman call on me.

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Mail this coupon NOW!